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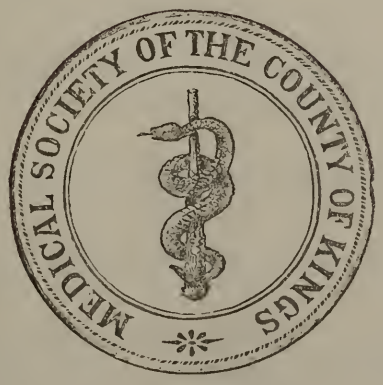
CONDUCTED BY 

THE COUNCIL.

EVERETT HALL, 398 FULTON STREET,

BROOKLYN, N.Y.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, FEBRUARY 19, 1878.

REASON VS. TRADITION IN THE TREATMENT OF CERTAIN INJURIES TO THE WRIST-JOINT.

BY L. S. PILCHER, M.D.

PART II.

FRACTURES.

1. Fracture of the radius near the wrist-joint.
2. Fracture of the radius near the wrist-joint, with dislocation of the ulna.
3. Fracture of the radius and ulna near the wrist-joint.

Fracture of the radius within an inch of the wrist-joint is of frequent occurrence.

The literature of this fracture is extensive. A subject of controversy from the time of its first accurate description by Colles, in 1814, the frequency of its occurrence and the difficulties attending its satisfactory treatment have been such, that it has engaged the attention of many of the ablest surgical minds of each generation since.*

*For résumé of the literature of this fracture, see the Essay on Wrist-joint Injuries, etc., T. K. Cruse, M.D., Transac. Med. Soc. State of N. Y., 1874, heretofore referred to.

The following is the description given by Hamilton* of the results obtained in the treatment of this injury:

"Eighty examples of fracture of the lower third of the radius furnished no cases of non-union, nor, indeed, do I remember ever to have seen the union delayed; yet only eighteen are positively known to have left no perceptible deformity or stiffness about the joint; it is probable, however, that the number of perfect results might be somewhat extended. * * * * Twice I have found the wrist and finger-joints quite stiff after the lapse of one year; in one case I have found the same condition after two years; in one case after three years, and in two cases after five years. * * * * * There remains, for a long time, in a majority of cases, a broad, firm, uniform swelling on the palmar surface of the forearm, commencing near the upper margin of the annular ligament, and extending upward two inches or more. This swelling continues much longer in old and feeble persons than in the young and vigorous. It is pretty generally proportioned to the amount of anchylosis existing at the wrist and finger-joints, and it disappears usually *pari passû* with these conditions. There can be no doubt that this phenomenon is due to an effusion, first serous, and subsequently fibrinous, along the sheaths of the tendons; and it is as often present after sprains and other severe injuries about this part, as in fractures. In many cases, however, its prolonged continuance and its firmness have led to a suspicion that the bones were displaced—a suspicion which only a moderate degree of care in the examination ought easily to dispel. A similar effusion, but less in amount, is frequently seen also on the back of the hand, below the annular ligament. When both exist simultaneously, the appearances of deformity and displacement are greatly increased. Here, then, we shall find a partial explanation of the anchylosis in the wrist and finger-joints, which continues occasionally many months, or even years, if, indeed, it is not permanent—an anchylosis produced, in a few instances, by extension of the inflammation to these joints, but much more often by the inflammatory effusion, and consequent adhesions, along the thecal and serous sheaths, through which the tendons all pass in their course to the hands and fingers, and by simple contraction of the articular ligaments as a consequence of disuse. * * * I have seen the fingers rigid after many months, when, having observed the case throughout myself, I was certain that no inflammatory action had ever reached them. * * * * * * To what I have said as to the prognosis in these accidents, I may be permitted to add the opinion of our distinguished countryman, Dr. Mott, given in a clinical lecture before his class in the University of New York: 'Fractures of the radius, within two inches of the wrist, when treated by the most eminent surgeons, are of very difficult management so as to avoid all deformity; indeed, more or less deformity may occur under the treatment of the most eminent surgeons, and more or less imperfection in the motion of the wrist or radius is very apt to follow for a longer or shorter time. Even when the fracture is well cured, an anterior prominence at the wrist, or near it, will sometimes result from swelling of the soft parts.'"

This long quotation from this recognized authority is suggestive. I shall have occasion to refer to it again—at this point I have introduced it because of the manner in which it depicts the results of treatment as directed by even eminent surgeons.

In the determination of the methods of treatment demanded by this injury, the reasoning has been simple and apparently conclusive.

*Hamilton, F. H. Fractures and Dislocations, 1866, pp. 278 and 279.

The syllogistic formula runs thus:

Fractured bones need splints;

Here is a fractured bone;

Ergo, here splints are necessary !

With the demonstration of the existence of a fracture, that was at once assumed to be the all-important condition toward which treatment should be directed.

Colles taught that splints should be applied which should confine the whole hand and forearm—a mode of treatment still practiced by some surgeons.

Many modifications have been advocated by divers surgeons, intended to meet supposed conditions present. In turn they have been discarded and forgotten, while at frequent intervals still descriptions of new modifications continue to find a place in medical journals. The vain attempt has been to devise some form of splint which, by its peculiar pressure upon or confinement of the parts, should ensure the retention of the bony fragments in perfect coaptation, and thus obviate deformity and lameness.

This constant effort to devise a new and more perfect form of splint implies a confession of previous failure.

The statements of results of treatment contained in the quotation from Hamilton is but a record of imperfect results.

Despite the fact that eager and able investigators have repeatedly searched the facts connected with this injury through and through, with almost microscopic minuteness, the difficulties surrounding the treatment of some cases have remained such as to call for the most guarded prognosis as to the results of treatment.

For this reason, therefore, I have endeavored to examine anew all the facts connected with this injury, and to critically question the meaning and relations of all the phenomena discovered.

To the methods of examination and the results achieved I now invite attention.

Fracture of the radius near the wrist-joint results almost invariably from falls, the force of which is received upon the palm of the hand.

The theory usually adduced in explanation of the injury resulting is, that the radius, being caught between two counter-forces, gives way at its weakest point, about one-half inch from its lower extremity.

An examination of the facts of the case does not sustain this theory.

In the first place, the force of the impact is, in great measure, broken before it reaches the radius.

The proof of this will appear in the examination of the mechanism of

the wrist-joint, and the relations of its elements to the forces which determine the injury.

In the second place, the lower end of the radius, by its expansion, and by the number and direction of the bony lamellæ which constitute its mass, is specially fitted for receiving and breaking shock, when applied to its extremity, in the direction of the long axis of the bone. In this respect it is the strongest part of the bone.

The first effect, in order of time, of a fall upon the palm of the hand, is forced extension of the hand.

This movement is performed mainly at the carpo-radial articulation.

Here I present a longitudinal section through the wrist-joint, from the middle of the radius to the middle of the third metacarpal bone. (See diagram 1.) The section passes through the inner portion of the scaphoid and the outer portion of the os magnum.

Diagram No. 1.

The carpal bones and the metacarpal are joined together with such firmness that but slight motion is permitted between them.

In the movements of extension and flexion at the wrist they act virtually as one bone.

At the lower extremity of the radius projects anteriorly a prominent lip, into which is inserted the anterior radio-carpal ligament, the extent of insertion of whose fibres is continued for a quarter inch or more above the articular margin. This ligament, though dense and strong, is sufficiently loose to permit considerable latitude of motion backwards.

The posterior radio-carpal ligament unites the bones together behind similarly.

The bones, thus related, constitute two levers. They may be represented as in the accompanying diagram, by A and B, held together by bands at C and D.

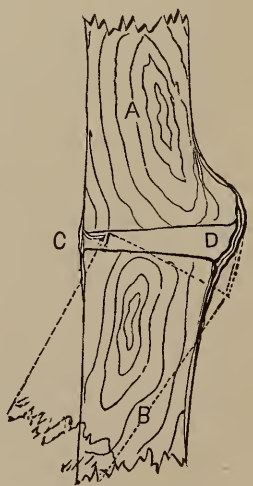


Diagram No. 2.

When B is forcibly carried backwards (extension of the hand), the band, D, is made tense; the opposite border of the lever, having slipped forward as far as the band, C, will permit, now abuts against the lower surface of A, which becomes a fulcrum for the further action of the lever. The mechanical arrangement is such, that an

immense power may be exerted. If the backward force continues to act, either the band, D, must rupture, or a lever be fractured. The projecting lip upon the upper lever puts it at a disadvantage. The band continues to sustain the strain. The lever gives way. (See diagram 3.) The point of fracture is necessarily just above that portion of the lever controlled by the band. The strain upon the lever is nearly transverse to its long axis. By this the direction of the line of fracture is determined. A fracture has been produced by definite forces, at a definite point, and in a definite direction.

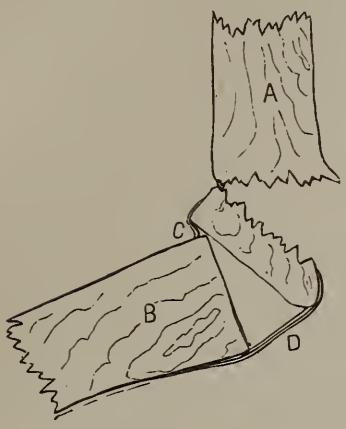


Diagram No. 3.

This is the exact condition which is present in the production of Colles' fracture.

By the powerful leverage which the extended hand and carpus obtain through the strong anterior ligament upon the lower end of the radius, that portion of the bone is literally torn from it. The very arrangement of the expanded end, with its cancellated structure, which so admirably fits this portion of the bone for receiving and breaking shock, render it the less able to resist a force of avulsion. The combination of conditions is such as to make the bone weaker than the ligament, and the fracture of the bone accordingly takes place.

The truth of this is easily tested experimentally.

I take this forearm and hand, removed from the cadaver; the forearm being firmly held upon the table, I bend the hand backward strongly, until, with a sharp snap, some structure gives way. I dissect it before you. The anterior ligament of the wrist is intact, but about half an inch from the lower border of the radius a fracture is seen to have occurred, nearly transverse in its direction both from side to side and from before backwards.

The force used, whereby this injury was produced, was suspended the moment the fracture was produced. In this respect there is a correspondence with a large number of wrist-joint injuries in which the violence has expended itself when this point is reached.

When the bones are covered by the soft tissues, there is no perceptible evidence of a fracture having taken place. There is no displacement of the fragments. Posteriorly they are held together by the periosteum, which there is still intact. Their inequalities fit into each other, so that in rotation of the wrist they move together. No crepitus would be elicited by any ordinary movement. The symptoms presented would be those simply of sprain, with this addition, that pressure applied at the

anterior outer aspect of the styloid process of the radius, one-half or three-quarters of an inch above its extremity, being over the line of fissure, would be especially painful. The conclusion is reasonable, that many sprains of the wrist are sustained and recovered from, in which a cracked radius has been an unsuspected accompaniment.

In that condition in which Colles' fracture is ordinarily recognized as being present, a second force other than that of extension is present, as an important and independent factor in the production of the results, viz.: the forward and downward impulse of the lower end of the radius, a force compounded of the weight of the body and the velocity of the fall which has been sustained. At first this is received upon the anterior ligament and converted by it into a force of avulsion. If it be entirely expended here, sprain, or sprain with transverse fissure of the radius, results.

It is evident that at all times the force of the direct impact ultimately sustained by the radius will be greatly diminished, as the result of the actions now described. When it is not entirely expended, varying results follow, according to the degree of force yet in action.

If I take, again, the forearm and hand, the subject of the previous experiment, and place the palm of the hand upon the table, so that the wrist is strongly extended when the forearm is raised perpendicularly to the table, I imitate the position in which the parts are at the moment of the rending of the bone.

An impetus from above, communicated to the upper fragment, is alone needed to complete the imitation of the forces concerned in the production of the more severe forms of the injury.

I supply this by striking a blow with a mallet smartly upon the upper end of the humerus, which has been sawn across at its middle and still remains articulated with the bones of the forearm.

It is true that in the ordinary production of this injury no appreciable interval elapses between the coming into play of the various forces which this analysis describes and these experiments imitate. This distinct sequence, nevertheless, exists. The prolongation of the intervals in the experiment does not invalidate its accuracy as an illustration of the principles involved.

In experimenting upon the cadaver, the tonicity of the soft parts, present in life, is absent; a greater relaxation of an articulation is present, and an unnatural stretching of ligaments will occur before rupture takes place.

In the particular experiment in question, much power is lost, as the result of this, and the force of avulsion diminished. That, notwithstanding this, the result of the test should be that almost invariably the lower

end of the bone is torn off, and the ligament remains intact, renders the demonstration of the method of causation of this fracture the more conclusive.

It is more difficult to experimentally produce the lesions which post-mortem examinations show, as well as examinations of recent injuries indicate, to have been sustained by the articular relations of the ulna in some cases, in consequence of this lack of tone, and resulting relaxation of the ligaments which bind it in its place.

The problem as to the character and order of the lesions which follow from the added force in question, is not difficult of solution: the force, its direction and power, the strength and mechanical relations of the parts upon which it is expended, are the factors to be considered.

The specimen which I now show you, the result of the last experiment, illustrates the conditions presented by the radial fragments in the more severe forms of this injury.

A new point of motion has been established.

The lower fragment of the radius is now virtually a part of the carpus, with which it moves, and by which it is carried backwards. At its inner border it is still tied to the ulna by the triangular fibro-cartilage and by the radio-ulnar ligaments; at its outer border, being less restrained, the fragment has been displaced to a greater extent than at its inner, as the result of which a decided inclination to the radial side has been impressed upon the entire hand and wrist. The upper fragment, driven downward and forward, has become entangled in the lower near its palmar margin. The impaction is but slight, and disentanglement is easy when the attempts are properly made. The lower fragment is a broad thin shell of bone. If the upper fragment is driven into it with much force, its comminution is inevitable. That this sometimes occurs post-mortem examinations have repeatedly demonstrated.

Examination of the periosteum covering the back of the lower portion of the radius, shows it a very thick and strong membrane. It is reinforced by fibres prolonged from the posterior ligament of the wrist, and from the posterior annular ligament, by blending with which the canals are formed for the passage of the extensor tendons of the wrist and hand. By this blending of membrane, ligament and fascia, the posterior envelope of the radius at this point is converted into a thick, dense and strong aponeurosis, which, in the backward movement of the lower fragment in the production of the injury under consideration, is not torn through, but is simply stripped up from the back of the upper fragment, to a greater or less extent, according to the amount of displacement of the lower fragment.

Such you see to have been the result in the wrist, which is now the subject of experiment.

Such has been invariably the result in every experiment which I have made—a half dozen of the preparations saved from which I herewith present for examination. The relation of the parts has now become such as is illustrated by diagram 4, in which this adventitious periosteal ligament is represented.

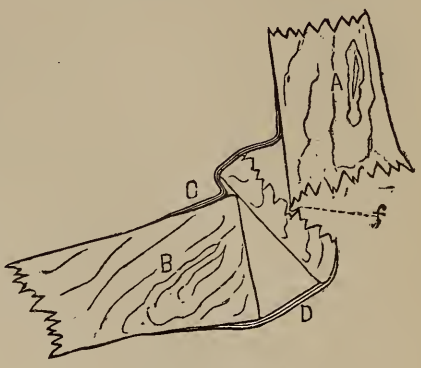


Diagram No. 4.

The recognition of this strong aponeurotic band firmly grasping the lower fragment I conceive to be of the greatest importance; for, if I reason correctly, and do not misinterpret the results of my experiments, it is the key which unlocks the chief difficulties that surround this injury.

Here is the explanation of the immobility and absence of crepitus remarked as characteristic of this injury by all surgeons.

Here is the occasion of that tendency to immediate return of the deformity upon suspending extension, remarked by Colles; and the reason for the powerful extension necessary for reduction, and the great difficulty in retention, mentioned by Astley Cooper.

The theory of penetration of Voillemier, and the impaction described by Callender; the deformity from muscular action championed by Robert Smith, and the power of an ulnar styloid process, entangled in the annular ligament, described by Moore, may all alike be explained, and the phenomena ascribed to these different sources be reproduced, by the agency of this untorn periosteal aponeurosis simply.

In any given case the full series of events, as described, having been completed, the force having expended itself, and the injured member relieved from the weight upon it, entirely new forces begin to act upon it. The hand, recovering from the condition of forced extension, as it straightens, or becomes flexed, to the extent of its weight, tends to bring back with it the lower fragment of the radius. This fragment, abutting against the projecting posterior margin of the upper fragment (see f, diagram 4), is supported upon it as a fulcrum, and the result of the weight of the hand is simply to make still more tense the aponeurosis which is attached to it behind, already made tense in the original injury.

Meanwhile the mass of flexor tendons, covering the palmar aspect of the radius, are being pressed upon, stretched, sometimes lacerated, by the projection anteriorly of the lower end of the upper fragment. Their strong and continuous contraction simply aggravates the condition just

described. The dorsal aponeurosis, unyielding, is kept tense; the entanglement of the irregular surfaces of the apposed fragments is increased; thus the characteristic deformity is produced and maintained, while immobility of the fragments and absence of crepitus is secured. The con-

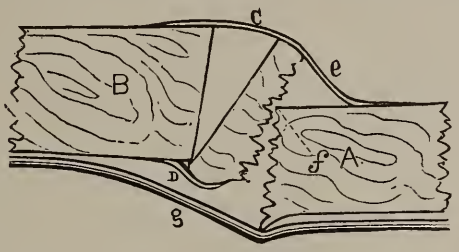


Diagram No. 5.—*e*. Dorsal periosteal pseudo-ligament. *f*. Point of entanglement. *g*. Flexor tendons.

dition now is as represented in diagram 5. If strong extension is made simply, upon its suspension the dorsal aponeurosis still remains efficient to cause the deformity to recur, without the intervention of any muscular action whatever. Powerful extension and strong direct pressure will be needed to force the lower fragment into its place. If the backward projection is allowed to remain to any degree, the vacant subperiosteal angle left will, in time, be filled in with new bone, which will enclose the compact lamina of the lower end of the upper fragment to the point where its periosteum had been stripped from it. Should a section of this be made after the lapse of years, an appearance of impaction or penetration would be presented well calculated to deceive.

Fracture and displacement of the lower end of the radius necessarily involves, to some degree, the ulna, to which it is closely united. The greater the radial displacement, the greater the strain upon its ulnar attachments, and also upon the attachments of the ulna and carpus.

When the radius has given way, and the force of extension is no longer arrested by the insertion of the anterior ligament into its broad margin, this force is felt strongly by that portion of the ligament which is inserted into the ulna; the whole hand, with the lower radial fragment, is caused to move backward and outward, as in supination; the styloid process of the ulna becomes approximated to the radius upon the back of the wrist, while the rounded head of the ulna is brought to project strongly upon the front and inside of the wrist. In this position the parts are firmly held; all rotation in either direction being prevented, as long as the backward displacement of the lower radial fragment remains unreduced.

The exact cause of this movement and this locking I have made a subject of frequent experiment. It occurs in experiments on the dead body equally as well marked as in the living body; it is, therefore, not the result of muscular action. Removing integument, annular ligament

and superjacent tendons, no change results; entanglement of the styloid process in the annular ligament, therefore, is not necessary for its production. If the greater part of the anterior carpo-ulnar fibres are cut way, no relaxation results. If the triangular fibro-cartilage be now exposed, though this be without tension and thoroughly relaxed, the ulna and wrist are still firmly bound in their new relations to each other.

The real cause of these phenomena now appears:

From the front of the cuneiform bone, passing obliquely upwards and inwards (to the ulnar side), to be inserted into the anterior border of the styloid process of the ulna for half an inch or more, from the tip of the process upwards, is a strong fasciculus, the strongest part of this portion of the anterior ligament. Repeated experiment has uniformly demonstrated that this fasciculus is the part upon which first the chief strain falls after the radius has given way. The obliquity of its direction, and the extent and place of its insertion, determine the movements which the movable parts attached to it shall make. By the backward displacement of the carpus and the attached radial fragment, this fasciculus is put upon the stretch, so that it becomes a strong, tense cord, limiting all rotation until relaxed. The action of this oblique inner fasciculus of the anterior ligament I show you in the specimens under examination.

As the result of this rotation of the hand and wrist upon the ulna, the tendon of the extensor carpi ulnaris, which ordinarily is found running along the inner side of the wrist, is now found upon its back, in close proximity to the inner border of the radius. To the casual glance it looks as if it had been dislocated from its proper groove and carried over to a new location; closer scrutiny shows that it is still in its proper sheath, and in its proper relations to the ulna—no displacement has occurred; and when, by the requisite manipulations, the radial displacement has been corrected, and the forced supination of the wrist is relaxed, this tendon again appears in its wonted place upon the inside of the wrist.

This completes the description of the peculiar lesions presented by fracture of the radius near the wrist-joint.

The important relations which the untorn aponeurotic dorsal periosteal strip and the inner oblique fasciculus of the anterior ligament sustain to the peculiar symptoms presented by this injury, have not hitherto been recognized.

The phenomena, of which these are the efficient agents, have been attributed to divers causes.

The importance of this demonstration cannot be exaggerated. The recognition of the relations of these structures renders simple the prob-

lem, heretofore esteemed difficult, as to the reduction and retention of the broken fragments.

Their demonstration appropriately introduces a discussion of the rational treatment of Colles' fracture.

TREATMENT.

The rational treatment of Colles' fracture must be such as will to the fullest extent possible answer the indications presented both by the bone injuries and by those suffered by the articular structures of the wrist.

Reviewing the steps in the genesis of this injury, it appears that the first step is a violent strain inflicted upon the anterior ligament by forced extension; that immediately consequent upon the yielding of the bone, a similar strain is thrown upon the ligaments which bind the ulna both to the radius and to the carpus. These are stretched, partially lacerated, sometimes entirely ruptured. The synovial sacs of the articulation are badly contused. In some cases the line of fracture is such as to open into the inferior radio-ulnar articular cavity, producing laceration of its synovial sac and hemorrhage into it. In those severe cases in which comminution of the lower fragment has occurred, or more or less complete dislocation of the ulna, laceration of the synovial sac and hemorrhage into its cavity are important and inevitable complications.

By the displacement of the fragments, as described, the fibrous sheaths and synovial envelopes both of the flexor tendons in front, and of the extensor tendons behind, are injured. In front, the projection of the ragged edge of the upper fragment into the midst of the flexor tendons affords a fruitful source of injury to them; behind, the violent stripping up and continued tension of the periosteum is an injury done to the floor of all the tendon-sheaths, into the formation of which it directly enters. The fracture of the bone is thus both preceded and followed by a severe sprain to the joint. The sum of the injuries inflicted presents a sprain of the most aggravated description.

Is it possible to harmonize the treatment which the sprain demands with that called for by the broken bone? If not, which should have the preference—the sprain or the fracture?

The rational treatment of sprain of the wrist has already been fully discussed. It was then stated that of wrist-joint injuries a wider range than had hitherto been accepted would be found to present sprain as the chief condition to be treated. Thus far it has been demonstrated that in all cases of fracture of the radius near the wrist-joint sprain exists as an important condition to be recognized. To decide upon its relative importance in determining the treatment to be adopted, requires next a consideration of the fracture.

Fractures at the lower end of the radius may be divided into two distinct classes, viz.: those without displacement, and those with displacement of the fragments. This distinction is clear and important.

The first class is likely to pass unrecognized—to be called a sprain, and to be treated as such. Immediately upon the recovery of the hand from the over-extension which it had sustained, the corresponding surfaces of the fragments fall together where they are held by the weight of the hand as it is held prone. Upon the dorsum they are firmly joined to each other by the untorn periosteum. The line of fracture is transverse, and the apposed surfaces are broad, so that there is no tendency to displacement; force from without is necessary to make displacement possible. The conditions of the parts are favorable to rapid union. The sole indications for treatment presented by this class of cases are simply:

1st. That the wrist be supported in the prone position with the hand hanging loosely—thus maintaining the fragments in apposition.

2d. That movements of extension of the hand, for a time, be limited, lest separation of the fragments again be occasioned, and repair be interfered with.

With these simple precautions observed, the fracture becomes insignificant indeed, in comparison with the greater difficulties and dangers attending the sprain which it has accompanied. Fortunately the treatment of the fracture, as advocated, in no respect can interfere with the treatment demanded by the sprain.

The second class of cases—those in which noticeable displacement of the fragments exists—comprises the cases which have been recognized hitherto as especially difficult of treatment, to that extent even that the most accomplished surgeons have acknowledged their inability, in some cases, to prevent persistent deformity and lameness. The extract from the work of Hamilton, quoted at the beginning of this discussion, describes graphically the results hitherto attained. An analysis of the conditions remaining as the sequelæ of this injury, as there described, demonstrates that these sequelæ are of two kinds; first, bony deformity, the displaced fragments never having been reduced; and, second, anchylosis from effusion among and adhesion together of the peri-articular structures. An additional authority may be cited bearing upon this point. In the volume for 1865, St. Bartholomew's Hospital Reports, article on "Fractures interfering with the Movements at the Wrist," etc., by G. W. Callender, the author says, p. 288:

"We may, I believe, safely conclude that it is very often impossible to reduce the impaction of the proximal portion of the shaft, and that a certain amount of deformity is necessarily permanent."

Again, on page 292, he says:

"The stiffness, long continued, often permanent, which is so frequent and so troublesome a complication, follows from and is due to the damage—the bruising and tearing—which the adjacent tendons and muscles suffer at the time of the fracture, and which leads to their subsequent inflammation, with adhesion among themselves."

What is the damage to the usefulness of the limbs occasioned by the permanent bony deformity thus acknowledged as often inevitable?

Let Hamilton answer:*

"Any moderate, or even considerable, malposition of the lower fragment, after a fracture of the radius, is not sufficient, in itself, to occasion anchylosis. It is true that in the fracture now under consideration the direction of the articular surface of the radius is changed. But of what consequence is this, so long as the carpal bones, with which alone this bone is articulated, preserve their relations to the radius unchanged?"

The data is now before us from which to decide the question, heretofore raised, which should have the preference in treatment in this injury—the sprain or the fracture?

The statements of authorities and the dictates of reason agree in these two points:

1st. The fracture entails no permanent disability.

2d. The sprain is the fruitful source of long-continued, sometimes permanent, impairment of the functions of the joint.

These facts being accepted, two conclusions are inevitable:

1st. The treatment of the sprain is first, both in order of time and of importance, in its demands upon the attention of the surgeon.

2d. No method of treatment of the fracture is justifiable which will interfere with the proper treatment of the sprain.

A full appreciation of the indications for treatment presented in this injury will demonstrate that no conflict exists between the measures demanded for the treatment of all the injured tissues.

The strained and lacerated soft tissues, and the fractured bone, alike demand that all the parts should be restored to their normal relative positions, as the first step of treatment. By the continued displacement of the bony fragments, repair of the soft tissues is interfered with, and danger of inflammatory complications increased.

The reduction of the fracture, however, has been confessedly difficult in many cases, and in some impossible. The theories adopted in explanation of this difficulty have been diverse. Muscular spasm and impaction have each had their partisans. Recently the theory that dislocation of the ulna and the binding down of its styloid process under the tense annular ligament, with the added pressure upon its head of the displaced tendon of the flexor carpi ulnaris muscle, constituted the

*Hamilton, op. cit., p. 279.

impediment to reduction, has been advocated by Dr. E. M. Moore,* of this State.

Upon the views held as to the cause of the difficulty will depend the measures adopted for overcoming it. By the method of investigation which has been adopted in this paper, both muscular spasm and impaction have alike been eliminated from among the potent causes of the permanent deformity. A tense annular ligament, binding down a dislocated ulna with a displaced tendon riding over it, has been seen to be a mere optical illusion.

The demonstration has been clear that the chief agent in preventing the ready return of the displaced fragments to their proper coaptation, is the tense and unyielding untorn periosteal strip, which connects the fragments upon the dorsum.

The failure to recognize this, and to direct the manipulations for reduction so as to meet the indications arising from it, has been the source of all the difficulties heretofore experienced in removing the deformity occasioned by severe cases of this injury. Granted that it is this which so persistently and firmly clasps the fragments together in a condition of pseudo-impaction, then this is the first obstacle to be overcome in securing reduction. It might be torn across by sufficiently powerful extension, and thus be overcome. There is a better and an easier way, however.

I take this wrist, which has been the subject of the experiment before you. It presents, strongly marked, the characteristic deformity, and illustrates the part played by the dorsal periosteal strip in question. (See diagram 5). By simply bending the hand and wrist backward, approximating the position in which the parts were when the displacement took place, the tense periosteum is relaxed. Slight extension now in the line of the forearm is sufficient to disentangle the rough surfaces of the fragments from each other. Moderate pressure upon the dorsum of the lower fragment causes it to fall into line. The weight of the hand is now sufficient to secure perfect apposition of the fragments; the periosteum again envelops closely the whole length of the radius; the tense inner fasciculus of the anterior ligament is completely relaxed; the radio-ulnar movements are free; the head of the ulna has ceased to project as if subluxated; all the parts have resumed their natural relations.

Dr. Moore, in the paper already referred to, describes a plan of reduction intended to meet the indications imagined by him to be present. His plan, circumduction of the hand with extension, has been proven

* A luxation of the ulna not hitherto described, with a plan of reduction and mode of after-treatment, including the management of Colles' fracture. By E. M. Moore, M. D., etc.—Transac. Med. Soc. State of N. Y., 1870.

practically to be of great value. To this I can testify from my own repeated experience. Upon analyzing it, the fact is patent that its value has rested in the fact that among the movements contemplated by it are included the movements which have just been shown to be the only ones necessary to effect reduction of this fracture, however great the displacement. All else in the plan of Dr. Moore is surplusage.

By the replacement of the fragments of the radius in their normal relations, the fracture has become one of the first class—with this difference simply, that the sprain of the soft parts is much more aggravated.

All the measures indicated as of value in overcoming the results of sprained wrist, elaborated and described in the first part of this treatise, are now of importance in the further treatment of this injury. Compression and support, by means of a bandage encircling the joint, is of value. The snug application of a strip of strong adhesive plaster, two inches wide, so as to grasp firmly the lower extremities of both radius and ulna, will restrict effusion, reinforce the radio-ulnar ligaments, and render more tolerable efforts at motion of the wrist-joint.

Massage, early, persistently and skillfully applied, is of the greatest importance in the after-treatment. The conditions are such as to warrant the statement that its most brilliant results are to be achieved in the treatment of this injury.

Motion, early, regular and decided in character, is of great importance. Use of the hand should be encouraged after the third day.

Is any further apparatus necessary for the support and retention of the radial fragments in place? The line of fracture is transverse; the fractured surfaces are broad; when brought into coaptation their irregularities fit into each other; upon the inside the ulna affords support; upon the back the extensor tendons, made somewhat tense by the drooping hand, are to be added to the weight of the hand as agents in preventing displacement backward.

The untorn dorsal periosteum prevents any forward displacement, if any tendency to it exists. Upon the outside, the adhesive strap, firmly applied, prevents displacement in that direction, while it reinforces the power of all the other forces enumerated, as it encircles the whole wrist.

What indication is unfulfilled? The sprain and the fracture, alike, are perfectly cared for.

The second general conclusion as to treatment, that no method is justifiable which will interfere with the proper treatment of the sprain, must not be lost sight of.

This conclusion is a perpetual indictment against the use of all and any splints in the treatment of this injury.

They meet no indication. If they are short, they do nothing. If they

are long, they do positive injury. The multitudinous forms and combinations of splints which have been contrived have all been the result of mistakes as to the real pathology of the injury, and are all alike useless, varying only in the degree of their harmfulness. Whatever good results have been obtained in cases splinted have been in spite of treatment, and not in consequence of it.

Throughout I have refrained from encumbering my argument by details of particular cases as illustrations. I have endeavored to make this a rational discussion of the points involved in the pathology and treatment of this injury. Clinical experience, however, is not wanting with which to corroborate or to combat the conclusions of reason.

During the past six years, 49 cases of Colles' fracture have presented themselves to me for treatment, and also 40 cases of severe sprain of the wrist, in which fracture of the radius was not made out, although in many of them I am persuaded that it existed.

In addition to these, I have been privileged to watch many more cases under the treatment of other surgeons. Among the cases thus enumerated, both sexes and all ages, from childhood to advanced old age, have been represented; every degree of severity of injury to the parts has been witnessed, from a simple fracture, with the slightest possible amount of displacement and of injury to the surrounding soft parts, to a compound fracture, with great displacement of the fragments and marked luxation of the ulna. Divers kinds of appliances have been used in the treatment of these cases; but in no instance of wrist-joint injury, treated by myself, was a splint applied.

The careful observation of these cases has made it possible for me to put to the test any theoretical vagaries entertained.

To sum it all up, this experience has accorded perfectly with the doctrines now advocated; wherefore I confidently claim that my conclusions are not mere theoretical vagaries, but that, founded in reason and established by clinical proofs, they are safe guides for surgical practice.

Fracture of the radius near the wrist-joint, with dislocation of the ulna, more or less complete.

Subluxation of the ulna is usually present in the second class of fractures of the radius near the wrist-joint.

The reduction of the fracture determines, without other manipulation, the restoration of the ulna to its normal relations.

In rare instances, with extreme displacement of the radial fragments, the radio-ulnar ligaments are torn across, and the ulna, completely dislocated, is thrust downward and forward upon the pisiform bone.

In such cases, no less than in those of mere subluxation, the reduction of the fracture accomplishes the reduction of the dislocation.

This follows from the fact that it is the radial fragment which is dislocated from the ulna and carried upward—not the ulna which is torn from the radius. When the radial fragment is brought down again to its proper place, it and the carpus attached to it must resume their proper relations to the ulna.

The presence of these conditions will require no material modification of the method of treatment which has been developed in the discussion of the fracture. They are simple exaggerations of the condition of sprain, and intensify the indications for treatment arising therefrom.

The action of the encircling adhesive strap in keeping the ulna up to its proper place, will be assisted by a compress, applied along the inner border of the ulna, enclosed by the strap. The wearing of a narrow sling, in which the wrist is supported upon its ulnar side, while the hand hangs freely, brings to bear the weight of the hand as an agent in preventing separation of the articular surfaces.

These devices are recommended by Dr. Moore, and are both rational and efficacious.

Fracture of the radius and ulna near the wrist-joint.

The feature which this injury may possess, in common with the injuries already discussed, is sprain suffered by the tissues about the wrist-joint. The extent to which this may be present will depend upon the manner in which the injury has been sustained ; this cannot be reduced to definite and certain laws, as in the preceding instances.

Although in this injury the necessity of the support of a splint in its treatment exists, the possible condition of the wrist structures must be ever kept in view, and the most assiduous care be given to it, according to the principles hitherto elaborated.

CONCLUSION.

The following résumé briefly states the most important conclusions arrived at, as the result of this re-examination from a rational stand-point of the more common injuries to the wrist-joint.

1st. Motion, massage, support and compression are of chief importance in the treatment of sprains of the wrist-joint.

2d. Immobilization, prolonged beyond the period of afflux, increases the dangers of inflammatory complications, and prolongs the period of repair.

3d. Severe sprain of the wrist is liable to be complicated by a transverse fissure of the radius near its lower extremity. This injury cannot be positively demonstrated in any given case, and does not call for special treatment.

4th. Transverse fracture of the radius within one inch of its lower

extremity, is the result of a force of avulsion communicated to it through the medium of the anterior ligament of the wrist-joint, as the consequence of extreme bending backward of the hand and wrist.

5th. Displacement of the fragments is the result of a downward and forward impetus impressed upon the upper fragment of the radius, still in action after the avulsive force has become expended.

6th. By the displacement, the posterior aponeuro-periosteal envelope of the radius is not torn across, but is stripped up from the back of the upper fragment for a variable distance, retaining its attachments to the lower fragment also.

7th. The state of flexion into which the hand is thrown, upon its recovery from the position of extreme extension, renders this dorsal strip tense, and causes the lower fragment to become entangled by the projecting rough posterior border of the upper fragment.

8th. The strength and tension of this dorsal pseudo-ligament may be such as to resist powerful extension in the line of the long axis of the radius, and to occasion great difficulty in the reduction of the fracture. It is the chief agent in the production of permanent bony deformity as a sequel to this injury.

9th. The movement of rotation backwards around the head of the ulna performed by the lower fragment and the attached carpus and hand, simultaneously with the displacement of the radial fragments, is due chiefly to the oblique direction and point of ulnar attachment of the strong inner fasciculus of the anterior ligament of the wrist.

10th. Reduction of the fracture, even in cases of extreme displacement, is easily effected by bending the hand and wrist sufficiently far back as to relax the dorsal pseudo-ligament; slight extension and manipulation will then suffice to restore the fragments to their proper relations.

11th. The fracture is both preceded and followed by a severe sprain. The sum of the injuries inflicted presents a sprain of the most aggravated description.

12th. The fracture never entails permanent disability.

13th. The sprain is the fruitful source of long-continued, sometimes permanent, impairment of the function of the joint.

14th. The sprain is first, both in order of time and of importance, in its demands upon the attention of the surgeon.

15th. After the reduction of the fracture, every support necessary for its satisfactory retention is afforded by the structures which surround it, with the simple addition of an adhesive strap snugly encircling the wrist so as to firmly grasp the injured structures.

16th. No splint of any kind is useful in the treatment of this fracture.

If applied so as to exert any control over the fragments, they cannot in any form retain the fragments in coaptation more perfectly than can be accomplished without them, while they interfere much with the proper treatment of the sprain.

17th. Dislocation of the ulna, more or less complete, does not alter the indications for treatment, nor demand any material modification of the methods to be used.

18th. These conclusions, based upon experiment and reason, have now been established by sufficient clinical experience to remove them from the domain of mere theories; although widely departing from the teachings of surgical tradition, they claim acceptance as safe guides in practice.

PATHOLOGICAL SECTION OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Annual Meeting, January 10th, 1878.

The President, Dr. Rockwell, in the chair.

Dr. Pilcher presented the heart and aorta from the following case:

J. W., æt. 35 years, formerly a soldier. While in army had chronic diarrhœa, malarial fever and rheumatism. Never injured his chest. Never had syphilis. Slight cough for four years, with occasional paroxysms of dyspnœa. First seen, with Dr. S. B. Childs, Dec. 22d, 1877.

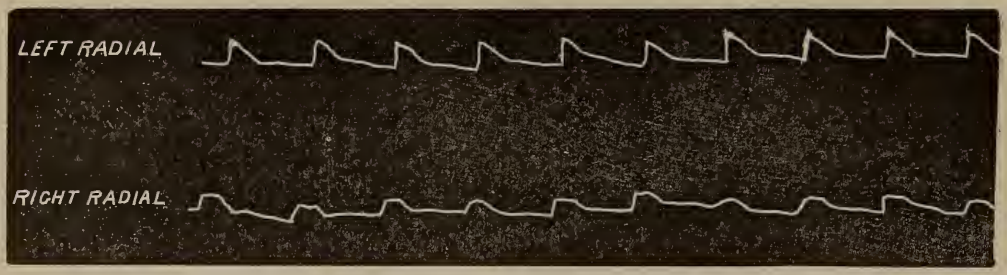
Symptoms: Orthopnœa; pulse rapid and weak; greatly debilitated.

Physical signs: Normal respiratory murmur posteriorly, over both sides. Heart sounds at apex natural, but faint.

Digitalis and belladonna were given, but soon discontinued, and replaced by morphia and brandy.

Dec. 24th: Were able to examine chest carefully. Percussion indicated an area of dullness extending the entire length of the sternum, and from nipple to nipple. Pulsation visible in right third intercostal space. Heart sounds at apex natural, but weak. At right of sternum a loud double murmur, which was propagated to left edge of sternum at third intercostal space. Diagnosis: Aneurism of arch of aorta. Dr.

Charles Jewett obtained the accompanying sphygmographic pulse-tracings.



They show greatest interference on the right side. From this the aneurism was supposed to be connected with ascending arch.

Iodide of potassium, opium and stimulants. The orthopnœa was relieved, but the patient died Dec. 26th, 1877.

Autopsy, ten hours after death: Thorax, only, examined. Both *lungs* markedly œdematous throughout. Tubercular deposits at both apices.

Half a pint of reddish serum in each pleural cavity. *Pericardium* occupied entire area that had been dull on percussion. Its cavity contained a small amount of pale serum.

Heart greatly enlarged, and distended with blood; weight, when emptied, 20 ounces. Valves all healthy and competent, except aortic, which permitted slight regurgitation when aorta was strongly distended. The cardiac walls were equal in thickness to those of a normal heart.

Fusiform enlargement of arch of aorta from its origin to origin of left subclavian.

Evenly distended in all directions. Distance from aortic valves to opening of innominate artery, measured through the centre of the vessel, $5\frac{3}{4}$ inches.

Regular Meeting, January 24th, 1878.

Dr. Colton presented specimens, and Dr. Walker related the history of a case, as follows:

A woman, forty years old, first seen by Dr. W. in 1873. Was then in fair bodily condition, but suffering from leucorrhœa, due to endometritis. In the autumn of 1875 was examined by Dr. J. Byrne, who found induration of cervix and advised amputation. The patient refused. She subsequently had metritis (acute), which was followed by pain in sides, abdomen and pelvis, and difficult defecation. The urine contained pus. Last September she had occasional discharges of pus from the rectum. From one-half to one ounce was discharged each time. In September, 1877, was admitted to St. John's Hospital under the care of Dr. Colton; symptoms as stated above, with the addition of a diarrhœa, which was worst at night. Physical examination: Tender-

ness over abdomen, ascites; a hard, firm tumor, supposed to be the liver, projecting several inches below the ensiform appendix. Died in a few days of exhaustion.

Autopsy on the second day after death.

Peritoneal cavity contained ascitic fluid.

Peritoneum, both parietal and visceral, studded with miliary nodules, especially on omentum and diaphragm. Evidences of recent inflammation at superior part, in the vicinity of the liver, and of ancient inflammatory action in the pelvis. Pelvic organs adherent to each other. Liver enlarged. Spleen enormously enlarged. Alimentary canal, except the rectum, normal.

Right kidney of normal size and appearance. Left kidney small; adherent capsule ; atrophy of cortical substance. Left ureter and pelvis greatly thickened, and the lumen slightly increased.

Bladder normal.

Left Fallopian tube enlarged and degenerated. Its walls contained small abscesses, with caseous pus. Right Fallopian tube in a similar condition. Ovaries both imbedded in a mass of inflammatory new-formation. Uterus of normal size. Cervix indurated ; vaginal portion abraded.

Behind the uterus and broad ligaments an abscess cavity containing pus, and communicating with the rectum, about one and a half inches above the anus. The walls of the rectum were thickened and indurated from inflammatory deposit, and its calibre diminished.

Dr. J. C. Shaw presented a heart and aorta. The heart was normal. A sacculated aneurism, the size of an egg, had developed from the posterior wall of the ascending arch. At its inferior portion the inner coat had become separated, making a dissecting aneurism. This had ruptured about one inch above the right semilunar valve.

The subject, a man forty-five years old, a hatter, died very suddenly without previous symptoms.

The pericardium was distended with blood.

Dr. Wyckoff presented, for Dr. Hutchison, a tumor of the female breast. The patient had borne children, but had never had any trouble with her breasts. No family history. The tumor was of two years' standing; the axillary glands were not enlarged; not of traumatic origin. One artery tied; united by first intention.

Dr. Bunker presented microscopic sections of hepatized lung; transverse section of a mucous polyp; a vertical section of integument of the thigh, from a spot where inflammation followed the hypodermic injection of morphine.

The Secretary requests members who present specimens to present therewith a *written* account of the case, and pathological appearances.

B. F. WESTBROOK,

Secretary.

Kings County Pharmaceutical Society.

ANNUAL MEETING, FEBRUARY 19TH, 1878.

Meeting was called to order at 3 o'clock, P. M., President G. C. Close in the chair, and about seventy members present.

Messrs. F. P. Howland, J. M. Keane and George W. Conn, Jr., were elected, and Messrs. D. C. Brenan, H. Barker, J. B. Williams, G. J. Thomas, R. H. Miller, C. T. Grove and D. C. Pearl were proposed for membership.

The resignation of Mr. Ch. Althaus was received and accepted.

The Secretary then read the following report:

TO THE OFFICERS AND MEMBERS OF THE KINGS COUNTY PHARMACEUTICAL SOCIETY.

GENTLEMEN: In accordance with the provisions of our By-Laws, I hereby submit the following report of the Society's transactions, together with a statement of its receipts and expenditures.

The Association was called into being partly by the introduction of a bill into the New York Legislature, whereby it was proposed to extend the jurisdiction of the New York Board of Pharmacy to this city, and partly from a necessity which had long been felt for an organization whereby the standard of our profession might be elevated, keeping pace in this respect with some of our sister cities.

The first meeting of the Society took place at Granada Hall, on Tuesday, the 27th of February, 1877, to which all the druggists of the city were invited. At this meeting a Constitution, By-Laws and Code of Ethics were adopted, and your present officers were elected. The Society subsequently expressed itself averse to the extension of the New York Drug Law, and in favor of a Brooklyn Board of Pharmacy. A bill providing for such a Board was subsequently framed by a committee of this Society, and is now in a fair way of becoming a law, it having been favorably reported by the Assembly Committee last week.

Since its organization the Society has had eight regular meetings, one special, and one adjourned meeting; also six meetings of the Board of Trustees.

At the first meeting 91 members qualified, by signing the Constitution; subsequently 28 qualified in a similar manner; and 26 have been elected, 5 of whom have not yet qualified, thus leaving 140 members in good standing.

The meetings of the Society have been fairly attended, and notwithstanding prophecies to the contrary, interest seems to grow with each monthly session, and perfect harmony prevails.

In December last the Society procured its Charter, and its Trustees were made its incorporators.

Since the organization of the Society there have been two amendments to its Constitution—one changing the time of meetings from *quarterly* to *monthly*, and the other providing for the appointment of a *special* Committee of Investigation for each person proposed for membership.

The receipts and expenditures of the Society have been as follows:

Total Receipts	$420.00
Total Expenses	186.90

Leaving a balance in the hands of the Treasurer of $233.10, with all bills paid to date.

All of which is respectfully submitted. LOUIS E. NICOT,
Secretary.

The Treasurer's report agreed with the financial portion of the Secretary's report, and upon motion both were accepted.

President Close reported, on behalf of the Board of Trustees, that the provisions of the State law continuing the term of the present officers for one year obviated the necessity of an election.

Mr. G. M. Baker said that, in view of the fact that all the work of the Society fell upon the Secretary, he moved that the President appoint an Assistant Secretary, to hold office until the terms of the present officers should expire; in the mean time the Constitution could be so amended as to provide for the election of such an officer.

Mr. Squibb thought that the interests of the Society would be better subserved by the employment of a stenographer. We could then have a verbatim report of all that transpired at our meetings, particularly the informal discussions that followed the introduction of all subjects of interest.

Mr. Wynne thought the proper thing would be to pay the Secretary for his services. Both of these propositions were deemed inexpedient. Mr. Baker's motion prevailed, and the Chair appointed Mr. E. A. Sayre Assistant Secretary.

Mr. Sayre moved the appointment of a permanent Committee of three on Notes and Queries. The motion was so amended that the Committee, when appointed, should report the mode in which it was to do its work at the next regular meeting of the Society, subject to its action. The Chair subsequently appointed Messrs. Ramsperger, Menninger and Sayre, Dr. Squibb having declined to serve.

Mr. Baker then read the following paper, for which a vote of thanks was tendered him by the Society. (See page 25.)

After the reading of Mr. Baker's paper, which was very well received, discussion ensued upon some of the points made by that gentleman. Dr. Squibb was of the opinion that pharmacists would be successful in the same ratio as they were deserving. He believed in the maxim of the "survival of the fittest." He thought that the business would adjust itself, merit would find its way, and unworthy members of the profession would drop out, as the standard became elevated. True, he thought some restrictions would be beneficial, and did not believe it just that a man who had been for years doing a legitimate drug business should be sandwiched between two adventurers who have few other qualifications than the possession of $300 wherewith to purchase a set of show bottles.

Mr. Baker replied that the doctor's views would only apply to the more enlightened neighborhoods; but in ordinary localities, and with the average public with whom druggists were thrown into contact, brains were at a discount. Mr. Ramsperger also took this view of the matter, saying that had been his experience in various localities.

The following, from the *New Remedies*, was read:

The Brooklyn pharmacists are again urging upon the State Legislature the enactment of a law which will govern the practice of pharmacy in Kings County. We are of the opinion that it would make shorter work of this matter if the law were constructed to cover the needs of the whole State; for we fail to see how it can be any more essential for the people of New York City and Brooklyn to have qualified pharmacists than for those of other cities. A general effort on the part of the best men throughout the State would accomplish more good than could come from encouraging the present way of doing things by "piecemeal." Why does not some one propose and undertake the organization of a State Pharmaceutical Association? The profession in New York State are a long way behind some of their neighbors in this particular. Such an organization would be of practical assistance in securing the enactment of a general law, aside from its value in other ways. The present method of securing the enactment of special laws to cover the circumstances of each city, town or village, is among the worst features of our State legislation, and we have a right to expect better methods of the men who are active in the present movement.

Messrs. Menninger and Ramsperger both assured the Society that any attempt at present to secure the passage of a State law would be futile; but the proposition looking toward the formation of a State Pharmaceutical Association met with general favor.

Owing to the lateness of the hour, a mass of interesting matter was laid over for the next meeting.

The election of delegates to the American Pharmaceutical Society was also postponed for one month.

Louis E. Nicot,
Secretary.

THE PROFESSION OF PHARMACY.

Read before the Kings County Pharmaceutical Society, Feb. 19th, 1878.

BY G. M. BAKER.

In a general plan of association, it is manifestly impossible to present all the various aims and details which come legitimately within the scope of associative consideration and effort. The grand outlines and general features only are delineated; the filling in and toning being left for subsequent development.

The benefits which may be derived from association depend in a great degree upon the character of this finishing process. The constitution may read with all the fluency of the most accomplished diction; the code of ethics may enjoin all the cardinal virtues; there must also be, on the part of the membership, a cordial recognition and acceptance of principles—a willingness to carry them to logical conclusions and sequences—together with an earnest purpose to accomplish results; otherwise, the full benefits and objects of association cannot be attained.

Individual preferences, sympathies and interests have often to be sacrificed to the general good, and it is only by mutual concession, assistance and fraternity that successful associative effort is possible.

As members of a profession having special and peculiar relations with the public, and, in our associative capacity, as representatives of mutual interests, we shall find ourselves compelled to consider matters not definitely set forth in our declaration of purposes.

In our Constitution, Ethics and By-Laws there is but a single word which indicates a recognition of any necessity for effort for the advancement of the material interests and prosperity of the profession; yet it cannot be supposed that this was not considered a legitimate and desirable purpose of our organization.

Whatever may have been the reason for giving this so little prominence, we cannot continue to ignore the necessities of the case.

Not only because this consideration is due to a service overburdened with ill-requited duties, but because the measure of progress in other directions depends largely upon change in this respect. In other words, the practice of pharmacy must become more certain and more remunerative, before it can become in any considerable degree more efficient and scientific.

We recognize fully the necessity of broader and more thorough professional culture. We welcome—nay, we insist—on greater restriction in respect to qualifications and the details of practice; at the same time, we cannot consistently shut our eyes to other sides of the question.

Fairly and candidly weighed, the profession as a whole is already, in respect to attainments and qualifications, in advance of its material prosperity.

It is therefore idle to expect any considerable further advance in the general average of scientific attainment or any desirable increase in professional efficiency, except as more adequate returns for professional service and greater security for professional investment are secured. The average man labors for a definite consideration, commensurate with the requirements of his duties and the efforts he puts forth in their discharge.

Hope may stimulate him to endeavor for a time; *actual* and *adequate fruition* is essential to secure *continued, unhesitating* progress.

That the returns for pharmaceutical service and investment are not adequate to the reasonable expectations of its practitioners is evidenced by the current sentiment of the profession; by the frequent changes in location and proprietorship; by the still greater number of stores constantly in the market; by the various devices, not *always* creditable, resorted to, to increase the insufficient receipts of legitimate business; by the embarrassed and crippled condition of many worthy members of the profession, and by the fact that but a very insignificant number of the profession ever rise above the necessity of absolute bondage to the routine of daily duty.

Other mercantile pursuits, other callings and professions, requiring approximately the same degree of culture and intelligence, even less special education, are less exacting and more remunerative. One day less in each week and half the number of hours each day are required in their service, affording, in proportion to this difference, greater opportunities for social and educational culture and enjoyment, and incurring in the same ratio less mental and physicial wear and waste; yet the pecuniary rewards for this lesser service *average* better than those of pharmacy.

Now there are several causes for this undesirable condition, some of which are more or less susceptible of correction or mitigation, by the united sentiment and effort of the profession.

One of these is the undue multiplication of drug stores. It is a favorite popular belief that there is no business so nice, so easy, and especially so profitable, as the drug business. In the estimation of all but those who have tried it, "there's millions in it." The result of this belief has been to locate a drug store wherever sanguine speculative inexperience could persuade itself there was a possible chance.

The cogency of the times and the persuasive influence of the inevitable, are gradually replacing the ambitious speculator with better ma-

terial; but the superfluity of stores remain, and help to swell the *aggregate* among which a given amount of business must be divided.

Now this excessive reproduction is as injurious in pharmacy as it is in vegetable and animal life. It is warping and stunting in its influence, insuring enfeebled and immature growth, and untrue and undesirable development. It is productive of nothing but apples of discord for the profession, and ashes of disappointment for the people. Every unnecessary store is a sucker at the root of the pharmaceutical tree, and, sucker-like, it takes the vitality which might otherwise become fruit, and is itself nothing but a fruitless sucker.

It may cause some surprise, then, to say that the representatives of pharmacy are largely responsible. Such, however, is the case.

Every pharmacist of observation knows there is no restraining sentiment in the profession. Individually we all have strong convictions in case our own territory is invaded; but there is no general sentiment discountenancing trespass on vested rights.

In fact, probably there are few stores started, however uncalled for or unjustifiable, which have not the countenance and encouragement of some already in operation. The rule seems to be in these cases, "all right, so long as it don't hurt me."

But this kind of sentiment will never build up an honorable and prosperous profession; neither will this license, however it may accord with the "genius of our system of government," ever become the basis of a scientific and thorough system of practice.

We need a better sentiment in the profession with regard to this matter—one which will restrain a man of pride and self-respect from doing what would be justly called stealing, if applied to more materialized rights, and which should be so considered here.

And then, *having* such a *sentiment*, we want a *law* to the same effect—for the restraint of such as are not amenable to the restraints of decency and public opinion.

Another cause of unhealthy condition, morally as well as materially, is the unfair, unreasonable and unnecessary competition. The old saying, "competition is the life of trade," like many other similar maxims, may be overstrained in the application. In fact, competition should have no place in the affairs of pharmacy, save only the generous competition of who shall best know and best do.

The competition prevalent is not of this complexion—it is the reckless, mean and mercenary kind; but, unfortunately for its advocates, necessarily futile.

The rules which apply to overtrading and overstocking in other and more strictly commercial pursuits do not apply to retail pharmacy. No

more drugs are consumed, no one lays in a stock for the future simply because they are cheap.

There is absolutely no gain in the prostitution, and yet we find pharmacists, educated men, the conservators of the public health—catering to the ignorance and cupidity of the people; tempting them by price inducements to the preference of the most unreliable, unprofessional goods upon their shelves, in the *hope* of personal gain. There are some in every profession and calling who think more of self and selfish gain than of right, justice or professional advancement; thank God these do not *fairly* represent our profession.

There is a legitimate percentage of profit in every business, regulated by those influences which govern production, demand, stability, and such other influences as naturally affect the question of value.

Price fixed in disregard of these considerations is not only arbitrary, but fraudulent. The very idea on which the conception of a selling price is based is made up of these considerations, and the buyer has as absolute a right in the just application of them as the seller. It is an impossibility for the dealer to sell a *portion* of his goods at or below cost, or below a fair average percentage, and the balance at a fair profit. There *can* BE *no fairness* in making a fraction of the sales bear the *whole* or *an undue* portion of the expenses, and no custom of trade or sophistry of reasoning can make it fair.

Another cause of demoralization is the practice on the part of wholesale dealers of retailing at wholesale prices.

It is undeniable that this is done to a very large extent. There is no need of demonstration to show how injurious this must be to the interests of the retail druggist, or how strong a pressure it is toward demoralization.

In fact, demoralization is evidenced by its very tolerance. When it is considered that these men are supported by the profession they help to debauch and ruin, it seems hardly credible either that the one could inflict or the other so meekly endure such an insult to every instinct of manliness and independence.

In no other business of equal influence and importance would it be tolerated for a day.

The fact that it is tolerated without effort at correction—nay, even palliated and excused—evinces a mortifying degree either of moral or financial prostration. A system of business which sanctions the offering of price inducements on certain articles, to be made up by advancing the price of other articles, is a fraudulent one.

It is true that these devices to catch trade are practiced in other branches of business, it is true that pharmacy suffers from such competition; but it is a competition against which pharmacy cannot afford to

retaliate in kind. Whatever the morality of these practices where the buyer can exercise a judgment in his own behalf, they can have no place in a calling like ours, whose strongest claim to public confidence must ever rest upon entire frankness and honorable dealing.

Here, then, are some of the points upon which, as an Association, we have yet to develop our purposes. These are some of the evils which are staying our progress, which will continue to stay our progress, toward the high and honorable position which is the birthright of our profession.

And now I hear some one of a practical turn of mind asking, "What are you going to do about it?"

Perhaps nothing. It may be that we have yet to develop, to cultivate and grow the professional sentiment and the professional morality which is requisite to overcome these evils. I have ventured to hope otherwise; to hope that we are now ready to commence the movement. At best it will be a slow and quiet one. Its progress will depend upon the moral attitude and sentiment of the individual members of the profession. The evils which afflict us had their origin and now have their continuance to a large extent in our own delinquencies, and their correction depends upon our efforts; the remedy is still to a large extent in our hands, if we have the manliness and honesty to apply it.

As an Association whose professed object is the promotion of the true interests of pharmacy, we *must consider* and take position upon these questions.

As individuals we cannot escape the necessity of action in accord with our declared principles, or, accepting the alternative, acknowledge ourselves inconsistent and unworthy.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The March meeting will be held on the 19th, at which time the following Papers will be presented:

The Obstetric Forceps; Their Use in Uncomplicated Labor. A pair shown. By Dr. F. H. Stuart.

Progressive Muscular Atrophy, and Its Pathology (microscopic demonstration), by Dr. J. C. Shaw.

The Hygiene of Chronic Nervous Diseases, by Dr. G. M. Beard.

Ἀσκληπιὸς ὁ Σωτὴρ

Χειρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——The Social Meeting of this Society, held December 8th, proved to be so popular, and has since been spoken of as so enjoyable an occasion, that it has been decided to repeat the innovation at a date about three months from that named above.

Now it so happens that certain dealers in and manufacturers of medical and surgical supplies, apparatus, novelties, etc., desire an opportunity to exhibit their products to our members in a more satisfactory manner than can be done at our stated meetings. This exhibition can take place with greater freedom and mutual advantage at some informal gathering—such as is held by the Royal College of Surgeons of England and other scientific organizations "on the other side," under the name of a *Conversazione.*

An interesting and instructive two-hour session will be arranged, and, in addition to instruments, microscopes, batteries, medicines, and medicine cases and office appurtenances, there may be shown a few works of art, gems and publications especially interesting to physicians, and possibly, also, the phonograph. In a word, an attempt will be made to join sociality and science. . . . Members whose newly-contrived instruments and apparatus have not yet been adequately explained to the profession have an especial claim upon an occasion of this kind, and they are invited to exhibit the fruits of their invention and ingenuity.

——The Annual List of this Society has been produced, this year, with the addresses, as correct as possible, of every active member. It appears as a four-page leaflet, suitable for ready reference in the office; it contains the Fee-bill, recently ordered to be reprinted. . . . A small number of these lists, printed without Fee-bill, has been prepared for pharmacists and others who have occasion to consult a list of physicians, and to answer inquiries concerning the *personnel* and the *locale* of the

profession. The public, as well as the profession, are interested to have these inquiries answered correctly, and we shall, from time to time, produce corrected lists of this kind, as a help in this direction.

——Our Court-Rooms.—Various medical men who have lately been compelled to attend, as witnesses and otherwise, in the city court-rooms, complain greatly of the vile condition of the air of those rooms. It is stated that not one of the judges, habitually sitting in some of these courts, is in a sound, hearty physical condition, but they all more or less suffer from *malaise* and pain, a suspected source of which is this same vitiated, sickening atmosphere. To say naught of the multitudes who come and go, humanity dictates that this easily preventible evil shall not be allowed to shatter the health of eminent and useful men whose duty compels them to spend hours daily in the dirty marble halls of justice. If this complaint is a true bill—and chemistry can soon answer if it is—will not some sanitary authority bring in an indictment?

——Heliotypes.—A complete set of Dr. Bingham's Heliotypes of Medical Subjects is on exhibition at the reading rooms. As works of art they will bear critical examination, and the subjects are suited to the adornment of physicians' offices. Capt. Charters will take orders for any picture that may be desired.

——The Report of the Board of Health of Brooklyn for the two years ending May 1st, 1877, is completed, and nearly ready for distribution. Among the physicians contributing to its scientific contents are Drs. Raymond, Stuart, Otterson, Griffiths and Fisk. The volume is copiously illustrated, having among other charts a complete sewerage map of the city. It contains nearly 500 pages, typographically well produced. It gives the vital registration of two years—1875 and 1876. The work is creditable and of enduring value.

——The Transactions of the Medical Society of the State of New York for 1877 is out. It contains nearly 500 pages, and is uniform in appearance with the volumes for the last two years. It has been carefully edited by the Secretary, Dr. Manlius Smith, of Syracuse, and presents, for the first time, complete lists of all the county societies. Of the scientific character of the book it will be impracticable to here speak more fully than to say it is one of the best volumes ever put forth by any society of the kind. The contributors from this county are Drs. Squibb, Ball, Giberson, Hutchins, Bell, Walker and Griffiths. Price, $1.35.

——Naphey's Medical Therapeutics; Naphey's Surgical Therapeutics.—The former volume has been known for some years; the latter, its companion volume, has been lately published. They are the product of immense labor, and the labor has been well expended. They represent the latest applications of medical art as collated from current medical literature and (as claimed) from original sources of distinguished practitioners. Their usefulness can hardly be well questioned. To the busy practitioner these volumes are of great value. It is hard for the most faithful reader to keep up with current literature, and these compilations have been so judiciously made that they can be consulted with great readiness, supplying, at a glance, the latest procedures in both medical and surgical practice.

——Another Work of Art, and a choice one, although but little known, has been sent us by Mr. Dixon, of 50 West 31st Street, New York, the owner of the plate ; namely, the engraving, Lettsom addressing the Medical Society of London. Engraved in 1801 ; size, actual, 18x22; twenty-two figures, among whom are Jenner and Woodville. In a few days this picture will be hanging at the rooms of the Society. There are very few medical engravings of better character or more careful execution.

——On Tracheotomy.—To prevent primary or secondary hemorrhage, and to secure the wound against infection (diphtheritic), tracheotomy has been performed by the galvano-caustic apparatus. Dr. St. Germain collates thirty-five operations, of which 18 were done by the galvano-caustic knife (battery); 16 by Paquelin's thermo-cautery, and one by the galvano-caustic loop. In reviewing these cases, he remarks that it is not always possible to limit the action of these cauteries; as Paulet relates a case operated upon by Verneuil, in which the eschar reached the size of a trade-dollar; he closes his criticism with the reflection that, if he himself should be so unfortunate as to require tracheotomy, he would much prefer the knife to the cautery.

Dr. St. Germain performed the operation of tracheotomy ninety-six times "with one thrust" (*en un seul temps*), and in three cases only was this method attended by hemorrhage. This method seems to be very plain: instead of penetrating layer after layer, the operator pushes his knife, a sharp-pointed bistoury, directly into the trachea, and enlarges the wound while withdrawing the knife; the wound being kept open by the dilatorium until the canula is introduced. But the ninety-seventh operation proved disastrous, showing that the method is by no means so simple and free from danger, and its value at least questionable. In this case the knife transfixed the posterior as well as the anterior wall of the trachea.

The introduction of the canula, which naturally followed the track of the knife, pushing its way between the trachea and œsophagus, was very difficult, and succeeded only after several attempts, the life of the child meanwhile being in extreme danger. This misadventure of the operator was only discovered by the post-mortem.—*Central-Zeitung für Kinderheilkunde.* R. H.

——The Dangers of Inflammable Volatile Liquids.—At Lyons, France, a young lady was about to undergo an operation requiring actual cautery. Anæsthesia was produced by ether, the vapor of which became ignited by the hot iron. The patient was badly burned about the face and mutilated for life. The *Lancet* argues that where thermo-cautery is used, chloroform should be employed rather than ether. Care should be taken even in the application of collodion near a naked flame. . . The galvano-cautery is frequently used while etherization is going on—whether safely or not remains to be demonstrated.

——A New Filter was exhibited at the last *Conversazione* at Guy's Hospital, which reduced strong tea and infusion of logwood to clear and tasteless water. The agent of filtration is at present a secret.

——Excision of Larynx, and the use of artificial vocal apparatus, by Dr. Foulis, of Glasgow, is reported in the *British Medical Journal*, Dec. 8th. The operation was necessitated by malignant growth and gradual occlusion of the upper larynx. It was a success, and the patient has been enabled, by a hard rubber laryngeal tube, with vibrating reeds acting for vocal chords, to speak in a resonant, loud and clear, though monotonous voice. The *Lancet*, Feb. 2d, gives a cut, with description by Dr. Foulis, of the artificial larynx. . . This operation is said to be the first of the kind performed in Great Britain.

——Cuca is the name used by the *Scientific American* when speaking of the drug usually called "coca"—a change for the better. The evidence recently adduced by that journal goes to establish the claims of *cuca* as a means of sustaining muscular strength, and of dulling the sensations of fatigue and exhaustion after violent or prolonged exertion.

——Nitro-muriatic Acid should always be prescribed by itself. A damaging explosion occurred lately in a mixture ordered by a physician, containing that acid and tincture of cardamom.—*Phila. Med. Times.*

——Blatta Orientalis is now offered by an importing house in New York, as the new Russian remedy for dropsy. This is cockroach to the general; it pleaseth not the million.

——METRIC MEASURES.—The following is clipped from the top of a prescription blank prepared by a Brooklyn pharmacist:

Metrical Weights.	Equivalents in Grains.	Approximate Troy Weights.
1 Milligram	.0.001 ..... .0.154	.....1-65 grs.
1 Centigram	..0.01 1543	.....1-6 "
1 Decigram	....0.1 1543	.....1½ "
1 Gram	..... .1.0 ..... 15.434	.....15 "
10 Grams (1 Dekagram)	...154.340	..... 2½ dr.
100 Grams (1 Hectogram)	1,543.402	....3 oz. and 100 grs.

This is an ingenious way of popularizing the new system.

——THE PLASTER JACKET.—The *British Medical Journal*, Feb. 9th, reports a session of the London Clinical Society, whereat Mr. Berkeley Hill presented twelve patients having angular and lateral spinal curvature, all wearing Sayre's jacket. Other surgeons present reported numerous cases: Mr. Lucas, 12; Mr. Barwell, 17; Mr. Golding-Bird, 18; and so on. The last named had seen good result in all his cases, and no harm, after a little dexterity in the application had been acquired. Hundreds of cases must have been hard-finished, on the other side, by this time.

——EXTIRPATION OF THE GRAVID UTERUS.—This operation has been thrice done in Vienna, once with success by Prof. Späth, as a substitute for Cæsarian Section, chiefly in deformities of the pelvis. This bold operation was originated by Dr. Rein, and by him carefully studied out in cats and rabbits that were with young.

——BELL'S PARALYSIS OF THE FACIAL NERVE.—The *Record* quotes *Le Bordeaux Méd.* to the effect that Dr. Masecarel is able by subcutaneous application of the interrupted current to cure this affection in seven or eight days. The ordinary duration is, under favorable circumstances, about six weeks.

——BUSHWICK AND EAST BROOKLYN DISPENSARY.—This new charitable institution will be fairly established by March 1st. Among the members of the Association are gentlemen of wealth and benevolence, and the Board of Trustees are shrewd, careful business men. A new feature of the Dispensary is the employment of a staff of dental surgeons to attend the poor who need their services. The Committee have secured a suite of fine rooms at 942 Myrtle Avenue, near Throop. The Association elected the following permanent officers: Nicholas Wyckoff, President; John M. Phelps and Hosea O. Pearce, Vice-Presidents; Judson C. Watson, Recording Secretary; John E. Norcross, Corresponding Secretary; Fred. Herr, Treasurer.

——THE U. S. DISPENSATORY, fourteenth edition, contains an error of sufficient importance to be noted. Under *Liq. Barii Chloridi* the dose is given as fifty drops—a misprint for five drops.—*Chemist and Druggist.*

——A Third Eruption.—An octogenarian of Sandford Street is said to have passed through a triple dentition—inclusive of wisdom teeth.

——Dr. Silas D. Scudder, a well-known physician of this city, died December 24th, 1877, of chronic renal disease.

——Dr. Jarvis M. Andrews, formerly a member of this Society, but lately practicing at 1 Broadway, New York, died January 26th, 1878.

The late Dr. Silas D. Scudder was born in Ceylon, India, November 6th, 1836. His father, Rev. John Scudder, M.D., had been a practicing physician in New York city, and afterwards became an eminent and successful missionary physician in India. After graduating at Rutgers College, New Brunswick, New Jersey, Silas D. Scudder commenced the study of medicine, and received his diploma from the New York Medical College in 1858, when in the twenty-second year of his age. He was then associated for one year with Dr. J. Marion Sims, who was, at that time, engaged in founding what has since become the Woman's Hospital of the State of New York. He afterward spent a year in Europe, visiting various hospitals in Great Britain and France, and preparing himself for medical missionary work in India, where he arrived in December, 1860. He settled at Arcot, a city of considerable size, near the eastern coast of India, and about seventy-five miles from Madras. Here he established a hospital and dispensary. At first opposition was encountered, because of native prejudices. Eventually a small building was obtained, and the work commending itself to the confidence of the officials of the English government, and the opposition of the natives becoming somewhat lessened, a noble building with ample grounds was placed at his disposal, where patients of different castes could be treated separately. The government made an annual appropriation toward the current expenses, and many English residents, among them Lord Napier, the Governor of the Madras Presidency, became regular subscribers to the treasury of the hospital. Over one hundred patients were treated at this institution every day. During his residence there of about twelve years, Dr. Scudder not only gave personal attendance to this large number of patients, but was also engaged in a visiting practice among the English and wealthier natives of the country. He was also a *teacher* of medicine, and instructed a large number of native assistants at the hospital, some of whom have since become successful practitioners.

Reference to his medical work in India would not be complete without mentioning the fact that it was made subordinate to the Christianization of the people.

Dr. Scudder returned to America in 1873 with health very much impaired by his long residence in a tropical and malarious climate, and by his severe labors there.

Soon afterwards he commenced practice in this city, paying special attention to gynæcology, and was made physician to the Helping Hand Dispensary, an institution established chiefly for that specialty.

In 1874 he was appointed lecturer on clinical surgery at the Long Island College Hospital, which position he held for one year.

Since the commencement of his practice here he has been a member of Kings County Medical Society. Notwithstanding his impaired health, he succeeded in obtaining a fair practice during the four years of his residence here. Though failing rapidly in health for the past year, he was only confined to his bed for about six weeks before

his death, which occurred at his residence, No. 415 Grand Avenue, on the 24th of December, 1877, in the forty-third year of his age. The immediate cause of his death was Bright's disease of the kidneys. He leaves a wife and five children to mourn his early decease.

CHAS. W. VROOMAN, M.D.,
ARCHD. CAMPBELL, M.D., } *Committee.*

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

Drs. B. A. Segur, S. G. Armor, R. M. Wyckoff, Drs. A. J. C. Skene, C. H. Giberson, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

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The A. M. A. meets at Buffalo, June 4th, 1878.

COMMITTEES OF THE SOCIETY.

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Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, MARCH 19, 1878.

THE OBSTETRIC FORCEPS.

BY F. H. STUART, M.D.

To give birth to young is a physiological function. Yet every occasion is as full of interest as if it were singular. Even among animals there is shown a solicitude that is one of the chief manifestations of intelligence in them. In man it is the occasion of exhibiting the tenderest and highest qualities of heart and mind.

The instrument which forms the topic of this paper, in the history of its construction and use, is the record of man's success in ameliorating and assisting parturition.

My object in bringing the subject before you is not to recall this history, with which you are familiar. I have a practical object.

As parturition is a physiological function the question arises: Do we need, or is it best, to interfere? It is a natural and important question—deserving a careful consideration. Much objection has been made, by writers and teachers in the past, to "meddlesome midwifery." Doubtless much of the objection to forceps was well founded. The instrument was so ill-shapen and cumbrous that it did much damage to mother and child. The forceps of to-day is so perfectly adapted to the curves of the pelvis and the shape of head, that I feel confident that the ground of many of the objections urged against its use has been removed.

But another question is suggested: Have there been influences operating in civilized life that have sapped the nervous system, making women more susceptible to, and less enduring of pain, so that now we are called upon to use aids, which in former times were not required? It is true that delicate women have easier labors than the women of savages or the robust of civilized communities. But they do not bear pain, nor have they endurance.

The conditions of life vary—not only in long periods of time and different races and countries, but also in the several classes of the same community. These conditions operating through several generations, or even during one, may so alter the constitution as to make what is normal to one woman abnormal to another; what is possible and easy for one, hazardous and difficult for another.

These differences of constitution are brought into prominence during the puerperal state. Those whose lives are passed much in the open air, whose habits of life and style of dress are unartificial, bear children with ease and without mental or physical suffering. They get up from childbed quickly, and the process of involution is perfectly accomplished. In their living they resemble the animals, and the bodily functions are similarly performed. In them is perfectly illustrated the law of compensation. Not having the excitement and pleasures of artificial life, they are spared its pains and debilitating influences. The forces of nature, being unimpaired, require little or no aid.

When we turn to civilized and cultivated life, and mark its influences and effects on the nervous system, and also on the physical constitution, problems of exceeding interest and importance arise. The irregular, stimulating, worrisome life keeps the nervous system in high tension, fashionable dress prevents normal circulation of blood, interferes with muscular movements and development, and thus the shape of the body is finally altered. Homes are unhealthy and breed or foster disease, air is impure, food unwholesome, and sleep irregular and unrefreshing. The bodily powers are weakened, its functions imperfectly performed. Out of these come predispositions to disease. Slight exciting causes disturb the balance of health. The beam of the scale oscillates frequently, and for long periods dips on the side of sickness.

These are general principles. Let us apply them to a particular condition. Perhaps they will guide us in the consideration of the use of means in assisting and ameliorating parturition. While women of the class who live normal lives need or ask no aid in labor, those whose conditions of life are more or less artificial do require aid. In both cases parturition is normal, but the circumstances are widely different. The circumstances of artificial life make necessary the use of artificial aids.

This leads us to inquire whether the obstetric forceps is an aid which we can use with advantage not alone in the unusual cases, where aid is indispensable, but also in the ordinary cases—*assisting the mother, sparing her unnecessary pain and effort.*

That I may present for your consideration the use of this efficient and powerful aid to parturition I will endeavor briefly to answer the following questions :

I. What are the advantages in the use of the forceps?
II. What are the objections to the use of the forceps?
III. When should or may they be used?
IV. How should they be used?
V. What kind of forceps?

I. What are the advantages in the (early) use of the forceps?

It spares the mother from long and needless suffering, and the nervous and physical exhaustion resulting from long-continued labor-pains. At the termination of labor, instead of being worn-out with the unaided efforts, she is fresh and vigorous ; she has less reaction from the excitement and her mind is cheerful. Her period of childbed is less like a sickness. Her "getting up" is more rapid. In every way she is better. On this point all the arguments for the use of anæsthetics bear with full force. Again, by the use of the forceps the labor is at all times under perfect control. It can be hastened or retarded as the condition of the parturient canal requires. If the parts are rigid they can be dilated slowly and with regular pressure. If they are relaxed the labor can be quickly terminated, even though "pains" may be wanting. As regards the child, the early use of the forceps, after its head has engaged in the pelvis, is decidedly advantageous. Delay in labor is always at more or less risk to it. Long-continued pressure interferes with fœtal circulation. Most still-births at term are due to this. It is my firm conviction that there would be a less number of still-births if the forceps were more frequently and promptly used than they commonly are. Why should not a physician hold himself responsible in every case of still-birth where life was felt at the beginning of labor and the presentation was normal?

II. What are the objections to the use of the forceps?

It is urged that, as parturition is a natural function, it should not, except in extreme cases, be interfered with ; that the powers of nature are adequate, except in rare instances ; that the child and mother, one or both, may be injured ; that subsequent to delivery the mother may have cellulitis, endometritis, or puerperal fever in consequence of the use of the forceps ; that for the same reason the child may have paralysis of one

or more sets of muscles by pressure upon nerves, may have sloughing or erysipelas of parts bruised by the forceps. These are the chief objections. To them all I reply that any or all of these consequences do follow the use of the forceps, but that it is rare for any of them to follow their use except in extremely difficult cases, where interference is *required*, and the same or worse consequences would follow the neglect to use them. The statistics with which these objections are sustained are chiefly of cases where there was either complication, or where the use of the forceps was delayed until too late—when the unfavorable result should not be charged to the instrument, but to the failure to use it. This is the foundation of the popular prejudice against the forceps in labor, as well as of the disfavor in which they have been held by a large body of the profession in times past. Certain precepts and traditions have been handed down by teachers and writers, which have been regarded as laws —as immutable as the law of gravitation. These precepts and traditions have been enforced with such pictures of terror and disaster, that the forceps are at this time "a lion in the way" of many a practitioner, young and old. But conscience is sometimes too quick to allow a physician to regard a dead baby or mother as a dispensation of Providence or a decree of fate. The result is that, during the last twenty-five years, in no branch of our art has there been greater progress than in this, the oldest department of it. In an address before the Section of Obstetrics and Diseases of Women of the American Medical Association, at its last meeting in Chicago, Dr. Jas. P. White, of Buffalo, refers to the increasing frequency of use of the forceps in all Europe (Dr. Seibold, of Berlin, using them once in seven times), and the corresponding decrease in the number of cases of craniotomy. The limits assigned to this paper will not permit me to quote from Dr. White's very interesting and valuable article.

III. When may or should the forceps be used?

They may be used in the first stage of labor. The cases suitable for this early use are when the parts are easily dilatable, when the patient is weak, when the liquor amnii has escaped, or when there is hemorrhage. But as I wish in this paper to confine myself to the ordinary cases, in which the forceps are not commonly used, I pass over those conditions that *call* for immediate delivery. Few practitioners are willing to follow the example of Dr. Johnson, of the Rotunda Lying-in Hospital, in using them in the first stage of uncomplicated labors. Yet I am sure that, after trial, no one will hesitate to relieve a patient by this easy and safe means in the second stage, when the "pains" are ineffective or have ceased, where the head is disproportionately large, or the pelvis of the mother sufficiently deformed to *delay*, but not prevent parturition, or where the head

of the child is so rigid as not readily to adapt itself to the pelvic canal. These are the common causes of tedious labors. Labor *can* be completed without aid. But where a remedy easy and safe is at hand, the heart and head of the kindly physician both prompt to its use.

IV. How should the forceps be used ?

Before beginning to use them the whole delivery should be planned as a surgeon does an operation—who mentally performs the operation and puts his patient to bed before he begins. The essentials for delivering with forceps are : the forceps, chloroform, ergot, scissors, and cord to tie the navel. Though patients are singularly free from danger in taking chloroform in labor, the careful obstetrician will have with him a vial of nitrite of amyl, which drug has within the past few years saved lives that else would have been lost.

The position of the patient : If the head is low in the pelvic cavity, and no special effort is required to deliver, the patient may lie in the natural position in bed. But if the head is at the brim of the pelvis then it is necessary to place the patient across the bed, with the hips brought close to its edge. In that case it is best to place an oilcloth on the floor to protect the carpet, and a vessel to catch the blood and water which flow at the moment of delivery.

It is my habit never to go to a case of confinement without the (Squibb's) extract of ergot. Though rarely given, even in small doses, to quicken the pains, I never fail to give it immediately after delivery. When the forceps are to be used it is given (a drachm) just before the patient is anæsthetized. To the observance of this precaution in using ergot I attribute the fact that in no single case in my practice has there been any post-partum flooding.

Emerson has said that "to be weak is to be miserable." Want of skill is weakness. No doubt the physician, often, as he sits at the bedside, says to himself : I could spare this patient much pain and give the child a better chance of life if I should use the forceps. But not feeling confidence in his skill, conscious of want of knowledge acquired *through practice*, he shifts the responsibility upon Dame Nature, though hardly thus feeling satisfied with himself or his profession—for a midwife or nurse could do as much. Perhaps his experience has been such that he shudders to recall it : contrasting the *careful ease* with which he saw another use them with the bungling *effort* he employed with each blade, and then they would not lock !

Facing the criticism that details of use are not in place in such a body as this, I ask you to bear with them, that possibly some *one* person may profit by them. In applying the forceps, injury may be done to the vulva, to the vagina, to the os uteri, and to the child's head. To avoid

injuring each and all of these, one simple direction is given : Pass three fingers of the free hand into the vagina and let their tips rest upon the presenting head. The palm and fingers form a guide and guard, along which is passed the blade of the forceps until it touches the head. With the fingers press aside the os, and at the same time raise and press gently the handle of the forceps. The blade will pass beside the head into position almost by the weight of the handle as it is allowed to drop down into the median line. For introducing the first blade the free hand will be the right hand ; for the second blade the left will be the free hand. A little practice enables one to balance the blade between the fingers—holding it like a pen. In almost all cases sufficient force for passing the blade can be used by this grip. Since the curves of the forceps correspond with the curves of the axis of the pelvis and the surface of the fœtal head, the blades pass naturally and easily to position. It is only necessary to keep clearly in mind the direction of the axis of the pelvis, which is the segment of a circle whose centre is just behind the symphysis pubis. If the blades are properly introduced the handles will be parallel as regards their upper and lower surfaces, and, with the common forms, the locking is completed by pressing the handles together.

TRACTION.

Traction should be made during "pain." In this way the forceps are a proper aid to the natural powers of delivery—which is the chief point urged in this paper. The forceps, used during pain, is often that *slight additional* force necessary to propel the child along the pelvic canal. Used with this idea the forceps would cease to be a bugbear, and our patients would welcome their use.

In the absence of pains, traction should intermit, in imitation of nature. Dr. Mathews Duncan has recently discussed the point, whether the handles should be used only as tractors, or also as levers—being moved moderately from side to side as traction is made. Dr. Duncan thinks this double use unnecessary and harmful. But let any one try the following experiment : Take one blade of a pair of straight forceps. Introduce it first on one side of the fœtal head and then on the other—using it in each position simply as a lever. The head will advance as certainly as does a block of marble with a lever under one end of it. This experiment contains the whole argument for the side-to-side use of the handles of the forceps during delivery. Only a slight degree of motion is necessary, or should ever be used.

In what direction should traction be made ?

To draw a body through a straight cylinder into which it is fitted closely were a very simple thing to do. The line of easiest traction is plainly the axis of that cylinder. Any departure from the axial line will increase

the bearing of the body on the side toward which traction is made. This will increase the friction, which may become so great as to retard all motion. It is like drawing a body through a ring ; traction being made in the direction of its axis the body passes easily. If the line of traction is deflected from the axial line the ring may part before the body will pass. Now the pelvic canal is simply a curved cylinder, each section of which is a ring. It is necessary then, in producing traction, to bear this in mind and pull in the direction of the axis of the ring which at each point encircles the fœtal head. As the head advances the handles of the forceps will be raised, describing in their course the arc of a quarter of an ellipse.

COMPRESSION.

In the class of cases referred to in this paper, little compression is required other than that made by the bones of the pelvis. I therefore pass over this point.

AT THE PERINEUM.

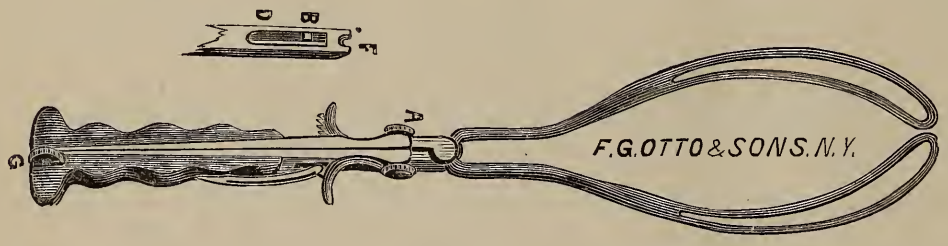
When the head is pressing on the perineum the greatest caution is needed not too suddenly to distend it. The maxim to imitate nature is specially important. The forceps need never rupture a perineum. I mean that in no case should the forceps be so used as to make greater tension than would be made without them. When the vulva is fully dilated the forceps should be removed and delivery completed by the finger introduced into the rectum.

OTHER POINTS IN USING FORCEPS.

In difficult cases it is well to unlock the forceps occasionally, leaving the blades *in situ*. This relieves the pressure upon the head. It also gives opportunity, if the uterus is contracting, for rotation to take place. In making traction a finger should be frequently introduced, to note the position of the head, and thus indicate the direction in which traction should be made. Care should always be taken not to deliver too rapidly. In this way lacerations will be avoided. Much used to be said about applying the blades of the forceps to the sides of the child's head. I need hardly say that it is impossible to apply the double curved forceps in any other situation than with the backs of the blades to the sides of the pelvic canal—the very eminent and learned teachers and authorities to the contrary notwithstanding. It is a simple matter to keep in mind the curves of the canal, whose walls are fixed. The body that passes through this canal is mobile and readily adapts itself to its shape.

V. What kind of forceps?

As to the kind of forceps I need say but a word. Each one uses best and likes the instrument he is familiar with. One with the double curve can be used in each stage. To obviate the objection to the "long" forceps, that they are inconvenient to carry, I have devised the pair which I will show, the description of which was given in the number of the *American Journal of Obstetrics* for October, 1877. They were devised for my own use, to meet the requirements and suit the convenience of an ordinary obstetric practice. I am induced by the favorable opinion of those professional gentlemen who have seen them to present them to the professional public.



Usually a pair of short forceps is all that is needed to terminate a labor requiring, or which is advantageously facilitated by, forceps. They are easily carried, and can be applied without giving alarm to the friends who see them. But cases constantly occur where long forceps are needed. Seldom the practitioner has them with him, and valuable and often important time is lost in sending for them.

The forceps about to be described combine the "short" and "long" forceps in one pair, which can always be carried without inconvenience, and can be applied with the least possible disturbance of the patient and trouble to the physician.

After trial of a number of others, I took Prof. Budd's forceps, with a single modification, viz.: that the shanks of the blades are not quite five-eighths of an inch apart. *But any other forceps may be made in the manner proposed.* Budd's forceps are essentially Simpson's blades and Elliott's lock and handles. The blades never pinch the parts, and the lock and handles combine advantages that make these forceps deservedly popular.

The short forceps are twelve inches long. The ratchet and catch at the end of the handles keep the forceps locked and in place. Sufficient traction force can be used with these curved handles to terminate most labors after the head has fairly "engaged."

When the long forceps are required, the catch may be left down and used, or it may be thrown back before the long handles are attached and then brought up beside the right handle, as is shown in the cut, where it is entirely out of the way. After the short forceps have been applied the long handles are easily adjusted. The thumbscrew (A) is to be loosened.

Then the opening (D) in the long handle is put over the curved portion of the short handle. A small, strong pin (B) on the inner surface of the opening in the long handle fits into a slot in the upper surface of the straight portion of the short handle. The distal end of the long handle has a counter-sunk opening (F) for receiving the thumbscrew (A). The thumbscrew is now tightened, and the forceps are ready for use. They are as *strong and efficient as any long forceps.* In length they measure 16½ inches. A screw (G) at the end of the handles adjusts the amount of compression.

The advantages of these forceps may in brief be stated to be:

1. They are easily portable.
2. They combine both long and short forceps.
3. They are less expensive than two pairs of forceps, and are *equally* serviceable.
4. They are more easily applied than ordinary long forceps.
5. They are simple in construction.

I must express my obligation to Mr. F. G. Otto, who made the forceps for me."

DISCUSSION.

——Dr. J. E. Clark.—The old doctrine has been not to apply the forceps early, to allow the woman to suffer as long as possible. I was among the first to rebel against this practice, in a paper before this Society about twenty years ago. Seldom uses ergot; believe it causes a tremendous strain upon the uterus, and would not subject a woman to that strain unnecessarily. The condition of the fœtal pulse is a most important criterion as to the application of forceps. The Elliott forceps is better than that exhibited, in that it permits of pressure, when needed. Seldom gives chloroform.

——Dr. E. R. Squibb.—Is not one drachm of the fluid extract of ergot an overdose, and liable to cause uterine colic? One-half drachm has commonly been rated as the dose, capable of producing uterine contraction. . . . The replies of several members imply that drachm doses of the fluid extract are given, *par routine*, with no observable ill-effects.

——Dr. Burge does not fully coincide with the teaching that chloroform can do no harm to the parturient woman. It is more safe than in many other conditions, but that it is "perfectly safe" is not true. Has seen cases of unduly prolonged convalescent stage follow chloroform.

PROGRESSIVE MUSCULAR ATROPHY AND ITS PATHOLOGY.

BY J. C. SHAW, M.D.

The case which serves for this clinical and pathological study is one which I saw through the kindness of my friend, Dr. B. A. Segur.

I had the opportunity of seeing the patient many times during his life, and made the post-mortem examination; most of the accompanying history has been kindly given me by Dr. Segur, and supplemented by observations of my own. The history of the case is as follows: Male, aged 44, no neurotic family history; at 20 years of age had gonorrhœa, which was not treated, and lasted one year; had another attack three or four years later, followed by all the distressing symptoms of a chronic urethral disease; pain in back and hips, etc.

In February, 1870, after exposure to wet and cold, became quite sick (the nature of which sickness is not known), was confined to his room two and a half months, and was unable to engage in any occupation for one year after; has never entirely recovered his former vigor since this illness; following this had some pulmonary hemorrhage and expectoration, which was slight.

In October, 1875, first felt a twitching in the hands and was able to observe the twitching of the muscles under the skin; soon noticed inability in writing and gradual diminution in power of small muscles of hands, shown in inability to tear up papers, etc.; both hands alike. Since January, 1876, has been totally unable to write; the atrophy began in the small muscles of the fingers, and then gradually extended to the other muscles of the upper extremities.

The first time I saw this patient, it was impossible to gain any information from him, for reasons which will be obvious further on; I found him very much emaciated in both upper extremities, the muscles of hands and forearms most decidedly atrophied, totally unable to move either extremity; but extremities perfectly flaccid, not the least contracture or rigidity; there was atrophy of shoulder and chest muscles, also of the face muscles to some extent; he was unable to utter a word—he could make a kind of grunt and that was all.

Examination of the tongue showed it to be markedly atrophied, and he was unable to protrude it; had a good deal of difficulty in swallowing; I also observed that he had a hare-lip, showing a want of perfect development, and perhaps showing a general defective development; at this time he was able to stand and walk about his room; there was no anæs-

thesia ; fibrillary contraction was to be seen in the muscles almost everywhere, tongue included ; he had considerable difficulty in swallowing. The reaction of the muscles was normal to Faradism ; there was no difficulty with the rectal or vesical sphyncter, but he suffered from constipation.

This horrible state of things gradually grew worse ; he became unable to walk ; the atrophy became more marked everywhere ; he had soreness of the muscles of the lower extremities ; the difficulty in swallowing became greater, and he was confined to bed, and emaciation, from want of sufficient alimentation, now came in to add to his wretchedness ; he died Sept. 27th, 1877.

At the time of his death the upper extremities, especially the hands and forearms, were a mere skeleton. At the post-mortem, owing to an unforeseen hindrance, I had to forego any examination of the peripheral nerves and muscles of the extremities, and I was only able to examine the cord and a small part of the pectoral muscles ; the lungs showed phthisical deposits, a diagnosis of which had been made by Dr. Segur during life. To the naked eye the cord presented nothing unusual ; the anterior nerve roots did not appear diminished in size ; but they were a little more translucent than usual, and this was most apparent at the cervical enlargement ; transverse sections made in the cord, previous to hardening, showed the gray matter more vascular than normal.

The clinical history of Progressive Muscular Atrophy must be so familiar to you all that I will not take up time by entering into any detail. The simple history of this one case will suffice to connect the symptoms with the lesions which I shall point out ; we will therefore pass directly to the pathological anatomy, and then a brief glance at the pathological physiology. After hardening in bichromate of potassa, sections were made in various regions of the cord, and mounted in Canada balsam, according to Lockhart Clarke's method ; on microscopic examination, sections from the cervical region show that there is a complete absence of the large ganglion cells, which normally are found in the anterior horns ; sections in the dorsal region show a disappearance of a large number of these cells. A very few remain, which have a normal appearance ; others are seen in process of degeneration, characterized by deposit of yellow pigment in the protoplasm of the cell ; the cells found in this region, in the columns of Clarke, are normal.

In the lumbar enlargement we see the largest number of normal cells ; but even here they are very few ; a large number of cells are to be seen in all stages of this pigmentary degeneration and atrophy; in many of them the change has advanced to such a degree that there is only enough left to enable you to see that there was once a ganglion cell, and that

they have passed into what might well be called the ghost of the ganglion cell, if you will permit me such an expression.

There is an increase of the neuroglia elements, as shown in the increased number of nuclei and condensation of tissue; there is also seen decided sclerosis of the lateral columns, which is most marked in the cervical region; there is in some places slight cortical sclerosis; all through the cord there is an increased vascularity in the anterior horns, and the sclerosed lateral columns, but which is most marked in the cervical region.

There are changes in the central canal all through the cord; but this is seen so often, and in such a variety of pathologic conditions, and even in cords which are otherwise normal, that it is here of no special pathological significance. Changes have taken place in the vascular apparatus, characterized by dilatation of the perivascular spaces, with an exudation into these spaces, and which is most marked around the central arteries; as a rule, there appears to be no changes on the arterial coats, except on the lateral columns, and here there is an increased number of arteries, and which have hypertrophied muscular coats.

This, in brief, are the changes in progressive muscular atrophy.

It was for a long time believed that the primary lesion was in the muscles, and it is not many years ago that Friedreich, of Heidelburg, wrote an elaborate and learned treatise in support of this view; but within recent years, owing to the labors of Lockhart Clarke, Hayem, Charcot and Jeffroy, many cases have been placed on record in which the spinal lesion has been the most decided and characteristic one; and this study of my own is confirmatory of the changes observed and the views propounded by these great men.

Augustus Waller, you will remember, showed by experiment that when the motor nerve root was divided just before it joined the posterior root ganglion, that the peripheral end of this divided nerve underwent degeneration; while the end remaining attached to the spinal cord did not undergo degeneration; on the contrary, when the posterior nerves were divided just before they join the ganglion, it was found that the end attached to the posterior ganglion did not undergo degeneration; but that the end attached to the spinal cord did; and this constitutes the well-known Wallerian law of degeneration. And it is correctly argued from this, that the anterior horns of the spinal cord are the trophic centres for the anterior nerves, and the posterior ganglion the trophic centre for the posterior nerves. Now, we know that the anterior nerves are really the continuations of the axis cylinder processes of these very ganglion cells in the anterior horns (it is true, so far, only a few observers

have been able to trace this direct connection; but they have been among the most able and reliable of our observers).

This anatomical and physiological fact, connected with our pathological fact, makes clear to us the series of changes, and the general symptomatology of so-called progressive muscular atrophy, or, to give to it its true scientific designation—chronic myelitis of the anterior horns.

The absence of sensory symptoms in this disease is very readily understood, when we know that the asthesiodic tract is not involved in the lesion. Recently, Professor Charcot has announced that, from his investigations, what has up to this time been classed under the general designation—Progressive Muscular Atrophy—really includes two different pathologic conditions; he has therefore classified them according to the order of sequence of the pathologic changes; in the cases in which the lesion begins in the anterior horns, and therefore show muscular atrophy as the very earliest symptom—as in one case—he calls protopathic muscular atrophy: in the second group, when the lesion begins in the lateral columns, and afterwards involves the anterior horns, and in which we have first, paresis, contracture or rigidity, and then muscular atrophy, he calls deuteropathic.

DISCUSSION.

——Dr. L. C. Gray.—The prognosis of this affection is not necessarily hopeless. In determining this point, would hold in view the rules of Duchenne. Believe the fat-and-blood-making treatment of Wier Mitchell appropriate here, and would expect from it good results in a proportion of cases. Dr. G. exhibited the plates of Friedreich.

——Dr. Kretzschmar.—Some late German observers confirm the theory that cases which are primarily of muscular origin are not inevitably hopeless.

——Dr. R. L. Parsons has had occasion to use Wier Mitchell's treatment in this disease, and with some degree of success.

Several speakers complimented the paper and preparations of Dr. Shaw. Dr. S. explained that the paper was limited to the pathology of the case, in the desire to present a *short* paper, and because, in his opinion, that is the branch of the subject that should first be studied. The treatment by rest, etc., is not new.

HYGIENE OF CHRONIC NERVOUS DISEASES.

BY G. M. BEARD, M.D.

When any patient with any disease, acute or chronic, undertakes any form of treatment for the relief of that disease, three elements enter into the processes by which relief is obtained:

1. The objective influence of medicines and treatment.
2. Mental influence, or mental therapeutics.
3. Hygiene—including diet, air and exercise, and all that makes up the environment.

All these three influences, co-operating with time and the natural recuperative power of the system, bring about what we call relief or cure. In practical therapeutics all these forces must be taken into account, and, so far as possible, utilized; in scientific therapeutical experiments, when it is desired to test the action of any new remedy, the sources of error from mind and hygiene must always be eliminated, else accuracy is impossible.

The fashion has been, both in practical and scientific therapeutics, to direct the attention too exclusively to the first of these influences—ignoring both the influence of mind acting on body, and hygiene in its many complex relations. The influence of mind in the causation and cure of disease I have analyzed elsewhere.

In recent times the hygiene of acute maladies has aroused the thoughts of the strongest medical genius of the world; but the hygiene of chronic nervous diseases has received attention mostly of a fragmentary sort.

Of these three orders of influence—medicine, hygiene and mind—the latter, the mind, is oftentimes the first in importance; while the medicine or medical treatment is the last in importance, even in cases that are perfectly cured.

In acute diseases hygiene is of more importance than mind; in chronic nervous diseases mind is very often of more importance than hygiene; but hygiene, in all cases, is of importance far exceeding the attention that is given to it.

With a good hygiene a blundering medication may succeed; with a bad hygiene the wisest medical treatment may fail utterly, in chronic nervous, or in all other maladies.

In the treatment of chronic nervous diseases, hygiene, mind and medicine are oftentimes confounded; it is difficult to isolate them, to say nothing of distinguishing their effects. Nearly all medical and hygienic influences set the mind in motion; the three forces are thus continually acting and interacting.

Therapeutics is indeed a three-horse team, where sometimes one draws all the load, while the others are pulled along in spite of themselves.

In their relation to hygiene, chronic nervous diseases may be divided into three general classes:

1. Cases that need only a radical change of life—from indoor to outdoor—with perhaps severe and unusual muscular exercise. Frequently cases in this class need no medication whatever.

2. Cases that need a *combination* of moderate exercise and judicious and varied treatment. Cases in this class must be cautioned especially about doing too much: they should never walk or work beyond the point of easy recuperation; and no degree of hygienic care is sufficient to cure, without the aid of positive and special objective medical treatment.

3. Cases that need absolute rest in bed for a number of weeks or months.

Cases of this kind need sometimes to have the room kept somewhat darkened and utterly quiet, and free from company and annoyance and the slightest shade of responsibility, so that eye and ear, and all the sensitive nerves, shall cease to be subject to irritation.

The great test of skill in the management of chronic nervous diseases, is to decide what one of these three classes a case comes under; for the management of each class is different—of the first and third, absolutely opposite—the one exercising violently out of doors, the other lying on back in bed in a dark and quiet room.

The special hygiene of chronic nervous diseases of all these three classes includes the management of the brain, the management of the digestion and the management of the generative function—*cerebral*, *digestive* and *sexual* hygiene—of all of which I am here to speak.

CEREBRAL HYGIENE.

Cerebral or brain hygiene consists mainly in the avoidance of the worry or friction that is the great element in the causation of nervous diseases, and in wholesome and varied activity of the intellect. Cerebral hygiene, like digestive and sexual, is therefore both positive and negative, including what should be done and what should not be done.

The one great cause of functional nervous diseases, and of some that are of a structural character, is, as I am more and more convinced,

financial trouble of some kind. By this I do not mean poverty—for the absolutely and hereditarily poor do not suffer from these functional nervous maladies to any great extent; but fear of poverty, and a sudden or gradual loss of money. Now and then there are cases where simple overtoil is successful, and unworried business may produce symptoms of cerebral hyperæmia or neurosthenia; but almost always there is friction somewhere, if we can only find where—and it is this friction, and not the movement of the mental machinery, that does the harm. The hard times of the past five years has furnished the soil in which many cases of nervous trouble that I have seen have taken root.

Next to financial comes domestic trouble—the sorrows and joys of love, conjugal misery and bereavement. These causes are more influential with women, as financial trouble is more influential with men.

Simple escape from friction is sometimes all that functional troubles need—a change from mental to muscular work, and the moral counter-irritation that is furnished by new scenes and unfamiliar faces. But for some cases—those belonging to the third class—this is precisely the regimen that should be avoided, except so far as relates to mental diversion.

BRAIN-WORK IN NERVOUS DISEASES.

Nervous invalids do not always need to suspend all labor of the brain—better, indeed, that they should be actively though pleasantly employed. The most distressing cases of nervous debility that I have seen have been in men who have suddenly retired from business. When a muscle is weakened through disease, we try to strengthen it through passive and moderate active exercise, believing that thereby its nutrition is improved. This same law the brain must obey. The feeble and tired brain, like the feeble and tired muscle, needs a certain amount of gymnastics. Labor of the intellect of the higher sort saves us from friction of the emotions of the lower sort, and thus becomes a positive and valuable remedial agency. For this reason I rarely advise patients to permanently leave their business, provided they are happy and prosperous in it; but rather to fight out the battle on the lines where they are.

RELATION OF CHARACTER TO NERVOUS DISEASE.

The prognosis in any case of chronic nervous disease is influenced far more than our books and teachers suggest by the intellectual character of the patient. Probably half of our cases of chronic functional nervous disease would never have been sick at all—at least, never would have felt the need of consulting a doctor—if their minds were stronger. What we call grit makes its own hygiene, both saving men from nervous disease, and aiding in their cure when once enfeebled. Many of the world's best thinkers have been laborious invalids. The sexual troubles

of young men are largely cerebral in their origin; and in all these nervous affections it is impossible to make an intelligent prognosis without taking into our estimate the intellectual character of the patient.

Where there is great muscular weakness, pain in the back on slight effort, or without effort, bloodlessness and hyperæsthesia—such as we so often see in women—not muscular exercise, but abstaining from exercise, is needed—absolute rest in bed for a number of weeks or months.

While the patient thus rests body and mind, the passive exercise of *massage*, or systematized rubbing, and the sedative and tonic effects of general and central electrization, are needed—should be used every day or every other day.

There is no more important mistake in therapeutics or hygiene than to confound, as is often done, this first and third class of cases.

The method of treating chronic diseases by absolute rest is an old one, and has been much abused; partly by applying it to cases for which it was not adapted—that is, those cases that needed exercise more than rest; partly by combining with it starvation instead of feeding; and partly by neglecting to combine with it passive exercise—electricity and manipulation. The fashion used to be to shut up nervous patients in dark rooms, keep them on starvation diet and draw blood occasionally; but, however well this may have done fifty years ago, the female constitution of our day needs tonics, sedatives, passive exercise and a liberal supply of food, when this treatment by enforced and prolonged rest is employed.

The general rule should be that *when the muscular system is vigorous and exercise is a pleasure, then out-door work, travel and change are to be advised; when the muscular system is feeble, and exercise is painful and increases the debility, absolute or partial rest may be tried.*

Disregarding this distinction, some are sent to Europe or Colorado who should keep at home, and they return, after long wandering, worse than before; while others are kept in bed who only need to get up and go to work.

I have now under treatment a case of neurosthenia or nervous exhaustion, with spinal irritation, in a lady who at first tried to get along by coming to the office, and receiving the electrical applications there. The results were not pleasant; she was made worse by a short ride in the cars and a very short walk; pain in the back and increase of all symptoms followed each visit, and evidently as a result of the motion of the cars and the task of walking. Now I have her kept in bed, enjoining upon her to eat all that it is possible to digest, and using on her electricity and rubbing several times a week. Pretty soon she will begin to sit up in bed, then sit up an hour or so a day, and thus gradually she will be restored to active life. Unless there is severe asthenopia it is not neces-

sary to fully darken the room where such patients are confined ; but the waves of bright light falling on the retina, like the waves of loud or harsh sound falling on the ear, irritate the nervous system ; hence it is well to have the room somewhat darkened, and at first to prohibit reading and writing.

Strümpell, of Leipsic, has lately published a report of a case of general anæsthesia, where there was entire paralysis of taste and smell, blindness of left eye and deafness of right ear, and also entire lack of sensibility of the skin, mucous membranes and of the muscles. *One eye and one ear alone* were the means of communication with external nature ; when this one sound eye was closed and the one sound ear was stopped, the patient in a few minutes fell into deep sleep.

This one case powerfully illustrates how irritating to the brain are the ordinary waves of light and sound. The same fact is proved by the experience of every one ; for we all sleep much later on dark mornings, and when we take a nap during the day usually wake up after an hour or two. In the hyperæsthesia of nervous disease, the sensitiveness of the optic and auditory nerves, as well as of the brain, becomes much exalted, and the need of avoiding external irritation all the more imperative. I have under my care a man who has been profoundly exhausted nervously and sometimes hysterical, and who, when he feels especially depressed, puts corks in both ears and shuts himself up in a dark closet.

Under this hygienic and medical management pain is relieved, and this anæmic and neurosthenic patient may grow fat, in some cases very rapidly. The views of Dr. Mitchell, of Philadelphia, on the value of rest in this class of nervous diseases, and of the use in connection therewith of general faradization and massage, liberal feeding and tonics, are in harmony with my own experience. In regard to the sedative and tonic effect of general faradization, and its action on the temperature and circulation, Dr. Mitchell confirms fully all that I have claimed for this method of using electricity during the past ten years. Central galvanization, of which he does not speak, is also of great value in these cases.

Seclusion from friends, of which Dr. Mitchell speaks, is not always necessary ; some of my best results have been gained when the patients were at home. Much depends on the character of the patient's friends—whether they are fools or people of sense. There are in this world many very worthy, right-minded people, whose very presence in a sick-room is poison ; through their very desire to do what is just right, they succeed in doing what is most wrong, and, when related to a patient, so that they can be familiar, may neutralize all medicine and all hygiene. Sad, serious and conscientious, they are foci of psychical contagion, and, by a single visit of an hour or so, may put back the nervous patient for a week.

I once had under my care a gentleman who was very susceptible to this sort of contagion, and sometimes I could tell, on entering the room, whether he had been exposed.

The point to be enforced is, that the wisest treatment fails in cases of this kind, unless the hygiene be right.

This method of absolute rest, employed with discrimination, according to each case, and combined with electricity, massage, food and medicine, is useful in hysteria and hysteroidal affections, simple neurosthenia or nervous exhaustion, spinal and cerebral irritation, nervous dyspepsia and chorea.

Many years ago I observed that nervous patients were better on Sundays, when they did nothing, than on other days; and that even the nervously dyspeptic could eat more on that day and with less distress than on secular days. For a time the reason was not clear to me. It is the repose of body and mind that makes it possible to eat so much on this day of rest, and that makes the day a hygienic blessing to civilization. There are patients who need to make every day a Sabbath—to have sixty, or ninety, or more, consecutive days of rest.

The second class of nervous invalids—those who can moderately exercise and keep on with their business, at the same time taking tonic treatment—also need much watching in regard to what they do; for their temptation is to overdo everything. The rule I generally give, is in all their exercise to stop short of much fatigue; if they get tired out, they have probably done too much; there should always be force in reserve. Many such persons are advised by friends and by physicians to work with all their might—hoe corn, lift heavy weights, or take fearful tramps, which is much like advising a bankrupt to live extravagantly.

Not long ago a physician from the interior of the State consulted me for various and peculiar symptoms of cerebral exhaustion. I was in doubt whether to advise absolute or only relative or partial rest—whether to put him in the second or third class—but concluded to begin with moderate and restrained exercise in the cautious and easy practice of his profession, at the same time taking electricity and tonics, with massage. He is acting upon that advice and is improving.

DIGESTIVE HYGIENE.

In some cases of chronic nervous disturbance, it is well to try an exclusively vegetable and fish diet. It is the belief of certain English physicians, that vegetable food produces more stable compounds than meat; here a vegetable diet has been tried in epilepsy, in the hospitals, with a certain degree of success. All the functional nervous diseases of which I am here speaking are characterized by instability of nerve-force, and if there be anything in this theory, might well be treated in accordance

with it. Like the use of absolute rest and counter-irritation and electricity, it is an old method of treatment—but, in these days, we are finding that some of the old methods, when wisely, scientifically modified, are of the highest service. In the case of the physician above noted an exclusively vegetable diet is used. The return to mixed diet should be gradual; at first for one meal a day, or three times a week. Even if the chemical theory of the greater stability of the compounds made by vegetable food be unsound, yet it may be claimed, with plausibility at least, that a most powerful impression, such as is involved in a sudden and complete change of food, ought, in some cases, to do good. Anything for a change, seems to be the cry of the nervous system in such cases of disease. It has been claimed for years that vegetarians were calmer, clearer, cooler, less passionate and less energetic than those who live partly on flesh. If this is true, whatever the chemical explanation may be, then vegetable diet is what these over-excitable, over-working, fidgety, nervous invalids temporarily need.

The abstaining from all starchy food has been found to be so useful in some cutaneous disorders, that the suggestion arises whether in chronic nervous disorders, also, the same regimen may not be used more than it is.

In those cases where the debility is profound and the digestion feeble, alimentation by the rectum, injections of beef-juice, milk, etc., may be used and kept up for weeks, if necessary.

Frequent feeding—a large number of meals a day, a little at a time—is an excellent plan in some of these cases; and it matters not how often, provided the stomach—the strength of which should be reverently guarded—is never overloaded. Many who cannot digest a full meal, can digest one-quarter of a meal, and digest it frequently. Nothing weakens the stomach in these chronic nervous troubles so much as leaving it empty; it is almost always bad to go without a meal, or to remain for any length of time hungry. The great sin of our ancestors was eating and drinking too much, and their indulgence in these matters was the cause of much chronic disease; but I do not remember that I have ever seen a case of chronic nervous disease brought on by over-eating. Rarely or never do I find it necessary to exhort these patients to eat less; but in almost all cases the study is, how to make them eat more; the lamp flickers because the oil is low, and the problem is, how the supply can best be kept up.

Although the generalization of Agassiz, that fish feeds the intellect, is among the wildest and unscientific ever made; yet there is little doubt that so-called "sea-food"—fish and oysters—is excellent for the nervous system, and very likely in part by virtue of the phosphorus that it contains;

but it no more feeds the intellect than phosphorus given in any other way. A healthy brain and an intellectual brain are not synonymous. One may be perfectly well, and, at the same time, perfectly stupid; a fool may eat like a lower animal, while the great philosopher barely keeps himself alive. While food is essential to thought, yet the force in food is not necessarily converted into thought-force. Good thinkers, like great athletes, are usually liberal feeders; but thousands who eat as much or more have very little intellect or muscle. The effect of a diet largely of fish seems to be sedative, calmative, like that of bromide of potassium, or phosphorus, or electricity—like these remedies promoting dullness, rather than intellectuality, and inducing a disposition to sleep more than to think, not accelerating, but slowing down the wheels of the mind, and, therefore, excellent and adapted for the nervous, and over-worked, and over-worried. The mistake of Agassiz was analogous to the mistake of the Italian physician, Paggioli, who used electricity on the brains of children, in order to stimulate their intellects, and help them get their lessons and take the first prizes in school.

SEXUAL HYGIENE.

Among the many departments of hygiene, the study of which has been systematically neglected by the profession, is that of the function of generation and of the sexes in their relation to each other. In relation to chronic nervous diseases sexual hygiene is of all importance; on acute diseases it has little direct influence, and therefore medical science has passed it by. The inductive investigation of the subject is a very difficult and delicate matter, and is complicated with elements of error without number. The practical conclusions on this subject, that seem to be required by a comparison of all evidence that thus far I have been able to obtain, are these:

1. In savage, barbarous and semi-civilized lands the sexual appetite can be, and is, and always has been, indulged by both sexes, not only in the natural way, but in all sorts of unnatural ways, to enormous excess, without traceable harm to the nervous system. To a less degree this is true of the lower orders in civilized lands—as slaves, sailors and peasantry.

2. The brain-working, indoor-living classes of civilization find it necessary to observe the same caution in this respect as in regard to diet. They can bear only a fraction of what to the savage or the slave is a matter of indifference.

3. There are individual idiosyncrasies in this regard. Some who are very feeble can bear much sexual indulgence, just as some who cannot raise their heads in bed, or take any stimulants or tonics, can eat and digest large quantities of food, or bear any amount of alcohol or electricity.

4. Sexual intercourse is a tonic and sedative; and, like other tonic and sedative measures, it induces sleep, or, at least, quietness, and increases the disposition and capacity for work.

When carried to relative excess—that is, excess for the individual at the time—it may produce, primarily, nervousness and wakefulness, and, secondarily, headache, neuralgia and various symptoms of exhaustion. The appetite for sex, like the appetite for food, can't well be regulated by arithmetic; but whenever any of these symptoms follow indulgence, they suggest excess at that time. At another time, under different circumstances, the same indulgence for the same individual may do no harm.

5. The evil effects of over-persistent sexual excess are usually temporary and very recoverable.

The German notion that structural and incurable diseases—as locomotor-ataxy, progressive muscular atrophy—are caused primarily by sexual excess, is not sustained by my observation. Functional excess of any kind causes functional, not structural, disease. Just as excessive brain-work, uncomplicated with worry, may cause cerebrasthenia or brain-exhaustion—just as excessive eating may cause atonic dyspepsia—just so excessive sexual activity may cause sexual exhaustion, either local or general; but none of these types of functional debility are usually of a permanent character; removing or modifying the cause in time removes or modifies the effect. Almost all healthy children over-eat; almost all healthy men at times over-use the brain and the sexual organs; but only a few are permanently harmed thereby. I am here speaking of the general law, to which exceptions are now and then to be seen. I was once consulted by a man of middle age, who presented a sad picture of misery and debility that was pretty clearly the result of long-kept-up masturbation; but in his case—and, indeed, in all similar cases—the objective evil of his habit had been reinforced by the subjective evil of dwelling upon and magnifying it. Proper advice and treatment, and sexual regimen, including marriage, would have cured even him, and may yet do so.

It would appear that the organs of thought, the organs of digestion and the organs of generation can bear and were designed to bear a vast amount of abuse without permanent injury. Were it not so, the human race would disappear from the earth.

In regard to the relative harmfulness of the natural and unnatural methods of sexual excitation, it may be said that masturbation is more likely to injure, for these two reasons: First. It can be practiced in early years, even in childhood; and, secondly, it can be practiced at any

time and alone, and therefore more frequently. These two causes, more probably than the difference in the acts themselves (although there is, *per se*, an important difference), account for the temporary or permanent debility that follows long-continued masturbation.

Likewise involuntary emissions at night—occurring now and then—are physiological and not injurious; but when occurring frequently, as a large number of times a month, and when worried over and dreaded by the victim, produce exhaustion.

Under this head I may say that there is no question that an important proportion of cases of functional nervous disease in both sexes are brought on or made worse by sexual excess and disturbance. As a rule these maladies are most common between the ages of fifteen and forty-five, when the sexual system is most active and most liable to abuse. I am persuaded that our remedies often disappoint us because the patient, through this function, keeps up a constant irritation—an irritation, perhaps, which on a strong and savage constitution would have no effect, but on a civilized nervous temperament is full of evil.

6. Excessive sexual indulgence, or abuse, acting on a *strong* constitution, produces *local* functional disease of the sexual organs—impotence in its various grades; acting on a nervous and delicate constitution, it produces general nervous exhaustion.

The worst cases of impotence I have ever seen have been in men of iron frames. The feeble, finely-organized constitution cannot abuse itself long enough to become impotent; excess so soon shows itself on the general system, that it is impossible to induce local disease. In writers' cramp—a malady that I am now specially and statistically investigating—the same law holds. Writers' cramp is a disease of the comparatively strong; the feeble and nervous cannot write hard enough or long enough to get the disease—fatigue of the system warns them in time, and forces them to stop or take it easy.

Thus far I have been speaking mostly of the chronic nervous disease of adults; in children, however, some of the same general principles apply. The infantile nervous system, however, differs somewhat from that of the adult in its susceptibility. Young children, for example, do not have neuralgia, or sick headache, or hysteria; they can bear chloroform without harm, and also electricity in larger doses than adults. Both of the latter points are impressed on me by operations in the electrolytic treatment of nævi. It is possible that cases of chronic chorea in children might be cured by prolonged rest in bed.

MUSIC AS A HYGIENIC AGENT.

Quite recently I have had the opportunity to co-operate with the well known pianist, Mr. Patterson, and Dr. M. A. Wilson, in some experiments

in the hygienic or remedial influence of music on the insane. The results were interesting and in some cases remarkable, and would suggest that other forms of nervous disease, less severe than the insanity of our asylums—mild melancholia, and mental depression attending various diseases, cerebral congestion, and anæmia, and hysteria—might be advantageously treated in the same way at home and among their friends.

With the insane at Blackwell's Island the experiments made these conclusions probable:

1. Instrumental music exercises on mania and melancholia at least temporarily beneficial effects, varying with the nature of the music and the temperament of the patient. The savage and violent sometimes become pleasant and calm; the melancholic and stolid may begin to weep, or become cheerful and chatty.

An overdose, like an overdose of any other hygienic or remedial agent, may have injurious effects. Some who are at once made worse by noisy music, may be calmed by music of a sad, solemn and quiet character.

2. It is not improbable that the regular, continuous use of music, for an hour or so every day, or less frequently, might have a permanent influence over violent and unmanageable cases.

3. It is probable that in the higher classes of society, among the intellectual and finely-organized, the results of systematic musical treatment would be more satisfactory than with the lower class of foreigners, on whom the experiments were made.

The hygienic value of pleasing sights has long been recognized; may not pleasing sounds also have their value in diseases of the nervous system?

PATHOLOGICAL SECTION OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Regular Meeting, February 14th.

The President, Dr. F. W. Rockwell, in the chair.

REPORT OF MICROSCOPICAL COMMITTEE.

The liver, in the case of Dr. Colton and Dr. Walker (published last month), had undergone amyloid degeneration. Dr. Bunker presented three microscopic sections of the same.

SECONDARY EPITHELIOMA.

Dr. Rushmore presented a mass removed from a man 70 years old, by Dr. J. C. Hutchison.

The patient had formerly had an epithelioma of the lower lip, which was removed by a caustic paste. Several months ago the submaxillary lymphatic glands enlarged, and a tumor developed, extending backwards on both sides along the hyoid bone.

Twenty days ago, a median and two lateral incisions were made by Dr. H., and the mass in part enucleated with the fingers. It extended backwards nearly to the angle of the jaw. There was very little hemorrhage.

INTRA-THORACIC TUMOR.

Dr. E. J. Harvey presented the thoracic viscera from the following case :

K. K., æt. 43, German, a seaman, came to the Long Island College Hospital, Jan. 19th, 1878.

History : Had a sore on his penis fifteen years ago, that healed in about ten days. No account of secondary symptoms. For several years the veins of the neck and chest had been varicose.

About one month before admission he began to have dyspnœa on exertion, with cough and pain in chest.

Symptoms : Extreme dyspnœa, cough and substernal pain.

Physical signs: Œdema of head, neck, thorax and upper extremities, with marked varicosity of the veins in these regions. The jugulars, though swollen, did not pulsate. Breathing labored. Dullness on percussion on right side of thorax, becoming flat below the fourth rib. Normal on left side. Tubal breathing at upper part of right thorax. Absence of respiratory murmur below the fourth rib. Breathing exaggerated on the left side. Tracheal respiration loud and roaring. Heart sounds feeble, but regular. Deglutition normal.

The dyspnœa and cough continued to increase until February 11th, when he died.

Autopsy : *Encephalon*, normal.

Thorax : The *heart* was somewhat displaced to the left, and the pericardial cavity was filled with serous fluid.

The left *pleural cavity* contained a large quantity of serum. No adhesions. The left lung was considerably congested, but otherwise normal. The greater portion of the surface of the *right lung* was firmly adherent to the costal pleura in its upper half. What was left of the pleural cavity posteriorly and inferiorly was lined by a quantity of gelatiniform amber-colored material, similar to that found in hydroceles. There was also some serum in this cavity. The upper and middle lobes of the *right*

lung contained a mass of cheesy material, but no cavity. Lower lobe congested. A large, lobulated *tumor* in the middle and posterior mediastinums, compressing the root of the right lung and nearly obliterating the lumen of the descending Vena Cava, just above the auricle. The right bronchus was surrounded by the mass, and the left somewhat narrowed by lateral pressure.

On section it was found to be firm exteriorly, but its interior was a mass of cheesy material similar to that in the right lung; with which it was, seemingly, continuous. Some greatly enlarged and degenerated *bronchial glands* were incorporated in it. The walls of the jugular, subclavian, innominate and azygos *veins* were much thickened.

Abdomen : A thick white patch resembling cicatricial tissue was found on the upper surface of the right lobe of the liver, and a similar one opposed to it on the inferior surface of the diaphragm.

The retro-peritoneal connective tissue was œdematous. Otherwise normal.

Dr. Giberson asked Dr. H.'s opinion as to the nature of the growth. Was it syphilitic?

Dr. Harvey thought not. He stated further that excavation must soon have occurred had the patient lived.

CEREBRAL ABSCESS.

Dr. A. Mathewson related the following history:

A man, æt. 39 years, strong and healthy, had had scarlatina in childhood, followed by deafness in the left ear. Two or three years after recovery from the scarlatina the ear commenced to discharge. On January 1st, 1878, he was seized with severe pain in the left ear and left side of the head. Dr. M. saw him on the 17th, and advised leeching and the warm douche. The pain was relieved, but soon returned, and Wilde's incision was made. The fundus was also pricked with a lance needle, in the hope of striking pus. No pus was found.

The membrana tympani had been destroyed. He did not recover consciousness when the administration of ether was stopped, but continued delirious. On the 25th, Dr. Agnew, in consultation, advised perforation of the mastoid. Buck's perforator, which Dr. M. prefers to the trephine, was used. The mastoid cells were normal. Death occurred four or five hours afterwards.

Autopsy by Dr. Shaw.

The base of the cranial cavity contained fetid pus, suppurative inflammation of the *pia mater* at the base. *Dura mater* in the *left middle fossa* over the tympanum was necrotic. Above this, in the temporo-sphenoidal lobe, was an abscess, which had opened into the lateral ventricle. The pus was supposed to have passed downward through the third and fourth ventricles and set up the meningitis at the base. Dr. Mathewson showed a cranium, illustrative of disease of tympanum, and of the thinness of the tympanic walls. Dr. Gray asked what the cause of death was. Dr. M. said there were no convulsions; the patient was comatose before death. He had seen several cases where no symptoms, except pain, were present, till just before death. Dr. Gray referred to a number of cases where death quickly followed the opening of an abscess into the lateral ventricle.

Dr. Mathewson made some interesting remarks on the treatment of chronic suppuration of middle ear.

Regular Meeting, Feb. 28th.

The President in the chair.

MICROSCOPICAL COMMITTEE.

Dr. Harvey's tumor had not been well preserved by the fluid in which it was kept, and nothing definite could be made out.

The tumor from the hyoid region, presented by Dr. Rushmore, was thought to be epithelioma.

EPITHELIOMA.

Dr. P. L. Schenck presented a mass removed from the lower lip of a man 20 years old, on Jan. 31st. It had been growing three years. He attributed it to the use of clay pipe, which he had smoked since he was twelve years old. The Doctor thought the case remarkable on account of the youth of the patient.

Referred to the Microscopical Committee.

TUMOR OF TESTICLE.

Dr. Schenck also presented a tumor removed from the scrotum of a youth 17 years of age. It had been growing for four months. Tapped three months ago with only a very temporary relief. It was not painful on pressure. On tapping, 6 or 8 oz. of clear fluid escaped. Two ligatures were applied, and the tumor easily enucleated.

The testicle could not be identified. Right testicle normal. (Referred to Microscopical Committee).

Dr. Giberson asked if it was supposed to be a hydrocele before the operation.

Dr. S. replied that it was not, as the solidity of a portion of it was manifest.

CEREBRAL ABSCESS.

Dr. J. C. Shaw presented a portion of the brain from a case as follows :

A boy eight years old, in apparent good health. In Nov. he had an epileptiform convulsion. Up to the middle of February he had four, in the last of which he died. The Doctor found, in the extremity of the right *occipital lobe,* an abscess, which he was sure was not connected with the middle ear. The walls were very thick. A small amount of pus in the right *lateral ventricle.* No history of an injury was obtained.

Dr. Giberson asked how death came about during convulsions.

Dr. Shaw said from interference with the centre of origin of the pneumogastric nerve.

Dr. Rushmore remarked that the fact that there was no history of middle ear trouble was not sufficient reason for supposing that the abscess was not connected with such trouble.

Dr. Shaw was sure that there was no such connection, as in abscesses from middle ear trouble there was no distinct wall. The pus was apt to be diffused.

Dr. Rushmore thought that such abscesses might have thick walls. He did not consider the diffused abscess characteristic.

Dr. Schenck asked if there was acute meningitis.

Dr. Shaw said there was not.

Dr. Schenck asked if this was not usually the case in abscesses due to middle ear disease.

Dr. Shaw thought that it was.

The Secretary requests members who present specimens to present therewith a *written* account of the case, and pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopic slides. Address, Curator of Pathological Section, care of Dr. B. F. Westbrook, Secretary, No. 279 Clinton St., Brooklyn.

BENJ. F. WESTBROOK,
Secretary.

Kings County Pharmaceutical Society.

Regular Meeting, March 19th, 1878.

The meeting was called to order promptly at three P. M. President G. C. Close in the chair, and a good attendance of members.

After the usual routine business had been transacted, Dr. Baker stated that he had frequently received (and no doubt others had) prescriptions calling for strychnine, phosphoric acid, pyrophosphate iron, etc., and in the compounding had invariably obtained a gelatinous, unsatisfactory mixture, and would like to hear from others on the subject.

Dr. Menninger: Do you obtain a precipitation?

Dr. Baker: No precipitation proper, but a gelatinous compound.

Dr. Squibb thought the mixture was incompatible; that he had found considerable difficulty with pyrophos. iron, it acts much better when fresh than when it has stood for awhile, and that it should be kept in well-stoppered bottles, as he considered the solubility depended upon the amount of ammonia retained in the salt.

Dr. Menninger prepared an elixir of quinine iron and strychnine after the formula of Prof. L. Deihl, of Louisville, Ky., and he had noticed that when made with fresh pyrophos. iron, he obtained a beautiful pea-green color; but in making some during the past week, he found a precipitation that he had not noticed before, and was unable to account for, but now supposed it must come from the iron not being fresh. He also asked the question if the light did not affect it.

Dr. Squibb said he thought not, but that the heat very likely would affect it.

Mr. Close said that he had similar experience in preparations of iron, quinine and strychnine.

Dr. Menninger called attention to two samples of a mixture of iodide potash and sulphate of morphia. He stated that his clerk had a prescription calling for iodide potash and Majendie's solution a few days since, and that he added the iodide to the solution and received a perfectly clear solution. He had occasion to leave it for a moment, and upon returning was surprised to find a thick substance in its place. He commenced again, this time first making a solution of the iodide and adding the Majendie's after, obtaining better results. He wished to know what the precipitate formed was. Thought hydriodate morphia.

Dr. Squibb thought it more likely to be sulph. potash.

Dr. Menninger said sulphate of potash was present in solution, but he thought the crystals in the precipitate were something else.

Dr. Squibb thought that although some of the sulphate of potash might be in solution, that the precipitate would also be found to be that salt.

Dr. Baker coincided with this opinion.

Dr. Squibb thought that there was no doubt as to the insolubility of the alkaloids of the alkalies.

Dr. Menninger said that he felt it to be a question of great importance to the pharmacist, owing to the well-known infallibility of the pharmacists as well as the physicians of our city.

Mr. Wynn asked the opinion of the learned men as to the policy of keeping iodide of potash in solution. Various opinions were offered as to the convenience, but the opinion of the majority seemed to be against the accuracy of dispensing by measure that which was intended to be by weight.

Dr. Squibb held the attention of the meeting on the subject of the pareira brava of commerce for a few minutes, also exhibited some fine specimens of the same. He gave a very good account of the cream tartar usually offered for sale, showing a very fine specimen of the crystals that he had found recently of a very pure character. He gave some interesting statistics as to his experiments, in which he had found samples as offered for sale to vary from 10 to 92 per cent. of pure cream tartar, the adulterations consisting of tartrate of lime and terra alba. He also told how you could go to stores in New York where you would be taken into a room in which a sample table is set with different grades of terra alba. One, you are told, will make a beautiful, bright cream tartar, another a dull one, and so on, from one end of the table to the other, each having a particular use. The doctor also called attention to an apparatus which he had with him used for testing, stating that it was within the reach of all, and until we took the matter in our own hands, we should have the same trouble.

After the transaction of further routine business, the Society adjourned to meet Tuesday, April 16th, 1878.

L. E. Nicot, *Secretary*,
Per E. A. S.

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——The Conversational Meeting of this Society, held March 11th, left no doubts in the minds of those present that gatherings of this kind may occasionally be arranged with both pleasure and profit. It was convened pursuant to the following call :

" A Special Meeting will be held at the Rooms of the Society, Everett Hall, 398 Fulton Street, Monday, March 11, 1878, at 8 P. M.

" This meeting will be *informal and social*, after the manner of the Conversazione of foreign societies. There will be an exhibition of various Medical and Surgical Appliances, Electrical Apparatus, Microscopes, a few works of Art and publications interesting to physicians; possibly the Phonograph, and sufficient other material to occupy the attention agreeably and profitably during a two hours' session. Any member having instruments, etc., of his own designing or importation, that are not well understood by the profession, will confer an obligation by addressing the Assistant Secretary.

" Dr. L. A. Sayre, of New York, has promised to attend and explain his apparatus for the treatment of spinal curvature."

The attendance was very full—not less than 125—and 11.30 had passed before the meeting broke up.

The early part of the evening was entirely informal; the chair was taken shortly after nine o'clock by Dr. Squibb. Dr. Sayre and his son favored the meeting with a demonstration of his spinal apparatus—putting up two cases of Potts' Disease in plaster jackets. A vote of thanks was tendered him on the conclusion of his remarks.

Dr. Garrigues explained his transfusion instrument. Among the exhibits placed upon the tables, were those sent by Mr. Darrach, of Newark ; Dr. Bingham, of Boston ; Messrs. Dexter, Berendsohn, Hall and Benjamin ; Dr. J. H. Kidder, of New York ; Messrs. Caswell, Hazard & Co. ; Mr. Gardiner, from Schiefflin & Co. ; the Western Electrical Company, through Mr. Cleland, Fleming and Talbot. Microscopes

were shown by Mr. McAllister, also by Mr. Schramm, for the Bausch and Lomb Optical Company. The telephone—in lieu of the expected phonograph—was operated by Dr. Evans and Mr. Coleman. These contributors to the success of the meeting were, many of them, present at considerable inconvenience, and received the thanks, though not audibly expressed, of the assembly. . . . Although held on a rainy night, and with a few other drawbacks, the meeting more than met the expectations of its prime movers. Its size astonished the invited guests; one of these said he was surprised and delighted with the audience, the rooms, and the excellent exhibits presented; considering that it was an experiment hitherto untried in this section. . . . Of the exhibitors, it must in justice be said that they were quick to heed the scientific aspect of the occasion; the mercantile element was for the time being subordinated. We can commend to other societies an occasional experiment of this kind.

——Hot-water in Post-partum Hemorrhage.—Recent numbers of the *Dublin Journal*, *Boston Med. Journal* and *Lancet*, Feb. 9, have detailed the successes of Gusserow and Lombe-Atthill with this, commonly considered American, plan; in all over 30 cases, with only one absolute failure. No discomfort, but rather comfort, is experienced by patient; temperature of water not under 110° F. and may be as high as 115° is advised. . . . Who was the author of this treatment appears to be in doubt with all those who have written lately. The weight of evidence is favorable to assigning to Dr. Emmet the credit of originating the hot-water plan in abortion followed by hemorrhage from want of contraction.

Dr. Lombe-Atthill, *British Med. Journal*, March 9, reports the cure of an extreme case of uterine hydatids by the hot intra-uterine douche. He has a high opinion of its use in the hemorrhages of abortion, "more reliable than any other method."

——Feeding versus Fasting.—Dr. J. A. Campbell writes to the *British Med. Journal*, Feb. 23, in favor of compulsory feeding in those cases of prolonged starvation, known as "fasting girls." He believes that these extreme hysterical manifestations can be overcome by the stomach-pump, "and in our present knowledge no more fasting girls should be permitted to occur." If the mind is diseased, the case should be placed under the observation of an alienist or sent to an asylum.

——Opium Poisoning.—The value of atropia in opium poisoning was shown in a most marked manner, in a case at one of the London hospitals. Dr. Milner Fothergill caused *one grain* of the sulphate of atropia to be injected under the skin. The reasons for this bold treat-

ment are most interestingly set forth in the *British Med. Journal*, Feb. 23, p. 267. A somewhat similar case is reported by Dr. Lamadrid, of this city, in which more than $\frac{3}{4}$ of a grain of atropia was injected in divided doses.—*Phila. Med. Times*, March 16.

——Sulphatis Americanæ Australis.—This is not a new drug, but is another way of prescribing quinia, where that word is too well-known and there are prejudices against it. *Journal of Pharmacy*, March. —In this latitude, the South American sulphate is occasionally written "chinia"—a far less ingenious synonym than the above.

——Vaccination Through the Mother.—It is claimed by Dr. Bollinger that the fetus may be sufficiently impregnated with vaccine virus to protect it, when born, from variola, if the pregnant woman be re-vaccinated at the eighth month of gestation. If the re-vaccination does not take, he advises the subcutaneous or intravenous vaccination of the mother. . . The Boston *Medical Journal*, for 1829, records an instance wherein vaccinia was transmitted in utero. A woman was confined nine days after an efficient vaccination; when the child was born its arm was marked by a perfect vesicle—its position being symmetrical with that on the mother's arm.

——Uses of Apomorphia.—This curious derivative from morphia was discovered in 1868. It is already a favorite in Germany; the writers in *Ziemssen* not infrequently refer to it. Its emetic properties are promptness and energy, with slight nausea and transient after-effects. It depresses much less than many other emetics. It is especially suitable for subcutaneous injection—in young, or rebellious or obtuse subjects. In minute doses, one-sixtieth to one-twentieth grain, it acts as a remarkably efficient expectorant, causing a free secretion of bronchial mucus. Its usefulness is well attested in croup, capillary bronchitis, catarrhal pneumonia and edema of the lungs. It has also been employed in epilepsy and *mal de mer*.

——Adulterations.—One conviction, in this city, on a charge of the sale of oleo-margarine for butter has occurred. The grocer was fined ten dollars. "Butterine," as it is called in England, is growing more and more popular with the pastry-cooks; there is now a monthly export of a million pounds. . . . The cheap caramel confectionery, made now-a-days, is said to be largely of parafine.

——The Ill-Effects of Chloral.—The Clinical Society of London has named a committee, R. Farquharson, M.D., Secretary, to investigate the results of prolonged use of chloral in ordinary doses. Carefully recorded cases are invited.

——The L. I. College Hospital opened its regular course March 6th. Dr. S. G. Armor delivered the introductory address before a very considerable lay and professional audience. His subject, "Medical Science and Common Sense," led him to the discussion of the "schools of medicine," as they are called. Homœopathy received the compliment of an extended notice. The artisans of that craft in this town appear to have been aroused by it, and, on the whole, speak very well of it. We give a brief extract from the address:

"But the high dilutions stagger our credulity, not to say our common sense, when used as curative agents. It is difficult to believe, for instance, that a patient is cured by high dilutions of lime, when he is swallowing a thousand times as much in every drink of water he takes. Every egg he eats has a thousand times as much sulphur or phosphorus in it as a 'high dilution' homœopathist would give him. Every morsel of meat he takes contains more iron than a homœopathic dose. The very air we breathe is full of these 'attenuations' in most confusing perplexity. There may be 'science' in these high potencies, but common sense is slow to accept them."

——The Fouling of Drinking-water.—Almost all city houses have a single supply-pipe for drinking-water and for closets. When water is being drawn below, and the w. c. above is in use, a gurgling sound is heard at the latter, caused by the indraught of closet-air into water-supply. When the pressure is restored from below, the air being imprisoned in the pipe, the water is forcibly charged with more or less impurity. In a report of Mr. Powers to the Board of Health, the remedy is pointed out—namely, a separate supply to w. c., by means of a small tank over closet. This simple and inexpensive method not only abolishes one source of water-contamination, but ensures an unfailing "flush" to closet. This is especially necessary in tenements and apartment houses, where the closets are many and the water-supply in almost constant use.

——Rugs and Drugs.—Mr. F. B. Nichols, of New York, importer of Oriental products, deals in the above strange combination. For, if it is true, as we believe, that rugs are decidedly sanitary in their tendency, when compared with the ordinary carpets, then rugs run counter to drugs—they are not compatible. . . Let physicians say a good word for the rug; let them use it themselves when next seeking for a floor covering. It commends itself for office use—pleasanter by far than oil-cloth, and cleanlier than a fixed carpet. The rug is, as a rule, tasteful in color and pattern, its size variable to every kind of use. It is light, movable, hence easily aired and cleansed, and quite durable. What is surprising, the rug is becoming fashionable—for it is seldom that fashion and hygienic interests pull together.

——Publications Received.—The Practitioner's Reference Book. R. J. Dunglison, M.D., pp. 341: Lindsay and Blakiston. A practical reference book which would not come amiss in every physician's buggy. See a full description among the advertisements.

Catalogue of the Collections in the Museum of the Pharmaceutical Society of Great Britain. Compiled by E. M. Holmes, F.L.S., pp. 302. London, 1878. This book contains a large number of notes, chiefly cautionary, interesting to students of the Materia Medica.

Calendar of the Royal College of Surgeons of Englald. July 12th, 1877. London. A manual of 342 pages. It shows a membership of over 4,000, also a fellowship of one-fourth that number.

Vital Statistics of N. Y. City for 1877.—The Annual Summary of the Bureau, by John T. Nagle, M.D., Deputy Register of Records (*City Record*, March 7th).

The mortality reached 26,203; the least in seven years: rate 24.50 per 1,000 living. Births *reported*, 25,569; marriages 7,129. These last must be much below the actual figures.

Illinois.—Directory of the Regular Physicians of this State for 1878. Dr. F. A. Emmons, Editor, 978 Wabash Ave., Chicago. Full, well arranged and clearly printed.

——The Journal of Physiology.—Macmillan & Co. have sent us the Prospectus of this new serial. It will be edited by Dr. M. Foster, of Cambridge University—a man of mark in the department of his choice. It will appear in four or six parts, the volume to contain 500 pages. Cost to Americans, $5 25 (gold).

——American Books.—The new Professor of Materia Medica at the Edinburgh University, Dr. Thos. R. Fraser, recommended to his class four text-books; of these, two were by American authors, Drs. Bartholow and Wood; the others being by Garrod and Scoresby Jackson.—*Clinic*, March 9th.

——The Three Codes.—Dr. C. Henri Leonard, Detroit, publishes a 16-page pamphlet containing the Codes of Medical Ethics of the American Medical Association, the American Institute of Homœopathy and National Eclectic Society. The Eclectic Code is a curiosity. It consists of two short articles: in the first it adopts the "Constitution of this great Union," in the second it speaks in most complimentary terms of the Bible. . . . Price of this pamphlet of Dr. Leonard is 25 cents.

——Thymol.—This highly antiseptic drug has the approbation of Mr. Spencer Wells. It is more potent than carbolic acid and less disagreeable in odor. A thymol gauze is made, for use in private practice.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The April meeting will be held on the 16th, at which time the following Papers will be presented:

A Case of Extra-uterine Fœtation. By Dr. C. H. Giberson.

Some Measurements of Skulls and Heads, showing that Development, Growth and Education increase the Volume of the Anterior Parts of the Cerebrum, indicated by the Masto-Frontal Angles. By Dr. J. S. Wight.

The Remedial Effects of Sea-air and Sea-bathing in the Diseases of Children. By Dr. J. Walker.

Jaborandi in Puerperal Convulsions. By Dr. H. B. White.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

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Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

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The A. M. A. meets at Buffalo, June 4th, 1878.

COMMITTEES OF THE SOCIETY.

HYGIENE.

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PUBLIC INSTRUCTION.

Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, April 16, 1878.

SOME MEASUREMENTS OF SKULLS AND HEADS, SHOWING THAT DEVELOPMENT, GROWTH AND EDUCATION INCREASE THE VOLUME OF THE ANTERIOR PARTS OF THE CEREBRUM—INDICATED BY THE MASTO-FRONTAL ANGLE.

BY J. S. WIGHT, M.D.

In the spring of 1877 my friend, Wm. H. Dudley, M.D., requested me to look into the question of craniology in so far as it related to the ancient Peruvians. For some time previous I had been considering various questions pertaining to the brain and the skull, and this request gave my investigations, *in a more general direction*, a new impetus. And while continuing this work, whenever I could find the time, my aims were promoted by many of my professional brethren, who kindly permitted me to measure their heads. My friend, J. S. Thorne, M.D., procured for me the opportunity to measure the heads of seven South American Indians, at the time in the possession of Mr. Elias Lewis. Two of these heads are here to-night, from the Museum of the Long Island College Hospital, which owns them through the generosity of Dr. Thorne.

Before going into the main question to be considered this evening, let me bring forward some points in regard to the thickness, extent and volume of the *cortex cerebri*. And first, your attention is called to the cranial cavity and its component parts.

The tentorium divides the cranial cavity into two cavities—namely,

(1) The cerebral cavity, the greater, and (2) The cerebellar cavity, the smaller. From actual measurements, I have found the ratio of the cerebellum to the cerebrum as 1:8.6; and the ratio of the cerebellar cavity to the cerbral cavity as 1:7.6—approximately. This average agrees very nearly with other estimates, such as 1:8.8 and 1:7.8. It must be remembered that the cerebellum does not occupy the entire cerebellar cavity as defined above; but it occupies the greater part of it. The medulla oblongata occupies the lesser part. In early life the ratio of the cerebellum to the cerebrum is as 1 to 14, about. But the fact is, the ratio of the cerebellum to the cerebrum is not constant. The cerebellum may be large and the cerebrum small—and the cerebrum may be large and the cerebellum may be small—as the case may be. Also the ratio of the cerebellar to the cerebral cavity is not constant.

A notable fact may be mentioned in this connection: *There is a pretty constant a-symmetry of the brain and its bone-case.* The proofs of this rest upon an examination of the brain, upon measurements of the skull, and upon measurements of the head. Every anatomist has noticed that one lobe may be larger than its corresponding lobe; one can hardly find a skull that is perfectly symmetrical—it "bulges" here and there. A striking illustration of the a-symmetry of the head may be found among the *conforms* of an artistic hatter. A simple inspection of these conforms is enough to show the a-symmetry of the human head. It reminds us of the deformed heads of the Toltecans and the misshapen feet of the Chinese. And what is most remarkable, the *a-symmetry* itself is not *uniform;* no two heads are exactly alike. And this must be remembered during the comparisons that we are going to make.

The thickness and the extent of the cortex cerebri are not uniform; the thickness varies, and the extent also varies—hence the volume of the cortex cerebri is not uniform. The volume of the cortex cerebri may be approximately estimated. Let us test some of its recorded dimensions: The thickness of the cortex cerebri has been estimated at two-tenths of an inch, and the extent of its surface has been estimated at 670 square inches. This would give 134 cubic inches. No human skull was ever known whose *entire* capacity was 134 cubic inches. The average capacity of the European cranium is estimated at 80 cubic inches. The cerebellar cavity corresponding to this estimate would be 9.3 cubic inches, and the cerebral cavity corresponding to this average capacity would be 70.7 cubic inches; but the cortex cerebri occupies only part of the cerebral cavity—how much, will be determined approximately by and by. Another estimate of the thickness of the cortex cerebri is one-tenth of an inch; this would give a volume of 67 cubic inches. Take this from 70.7 cubic inches, and there remains only 3.7 cubic inches of the cerebrum; that is, on the supposition last made,

the cortex cerebri would be to the rest of the cerebrum as 70.7 to 3.7. On the face of it this conclusion is unsound. The fact is, the cortex cerebri varies in thickness, not only in the same brain, but in different brains. The thickness and weight of the cortex cerebri are no more constant than the thickness and weight of the skull, which will be shown to be variable. It is difficult to fix an average thickness of the cortex cerebri. Two-tenths of an inch is too large, and one-tenth of an inch is too small, perhaps. As near as I can come to a conclusion, one-eighth of an inch is near the truth. And this estimate, in conjunction with a surface of 670 square inches, gives a volume of 83.75 cubic inches, which is greater than the average volume of the human brain. Yet some measurements have afforded a higher average than 80 cubic inches for the cubic capacity of the Caucasian skull. Hence there is no doubt that a surface of 670 square inches is too much for the cortex cerebri.

Take the average diametrical dimensions of the 21 Caucasian skulls of Table No. 1; add the average base-line, 4.843 inches, to the average transverse diameter, 5.6 inches, and divide by 2, and it gives an average transverse dimension of 5.221 inches. Then add this to the average antero-posterior diameter, 7.184 inches, and an average vertical diameter of the cerebrum of 4.25 inches, and divide by 3, and it gives an average diameter of the cerebral cavity of about 5.5 inches.

Suppose we consider the cerebrum a sphere: the average volume would be 70.7 cubic inches; the average diameter would be 5.5 inches; and the average surface of this sphere would be about 51 square inches —that is, the superficial surface of the cerebrum would be 51 square inches.

Now suppose the infolding of the cortex cerebri increases the superficial surface of the cerebrum 5 times: the entire surface of the cortex cerebri would be 255 square inches—hence the volume of the cortex cerebri would be about 31 cubic inches. This result, taken from the cerebral volume, gives the volume of the cerebral mass minus the volume of the cortex cerebri—equal to 39.7 cubic inches. Again, suppose we assume the surface of the cortex cerebri to be 300 square inches, which may be nearer the average: then the volume of the cortex cerebri would be 37.5 cubic inches, and the rest of the cerebral mass would have a volume of 33.2 cubic inches. How far these estimates are from the average facts, I am at present unable to say. In fact, I have only made an attempt to solve a very complex and difficult problem. Indeed, the approximate determination of the relative volume of the gray matter of any one of the cranial ganglia would no doubt lead to important results; *for volume must be one of the standards of comparison.*

The cubic capacity of skulls can be approximately measured by means of peas, beans, rice, wheat, shot, and sand. *Dry peas are convenient and fairly reliable.* Shot will break fragile skulls, sand will run through the foramina and fissures, and the grains of beans, wheat and rice are not spherical; and with peas it requires great care to measure the cubic capacity of a skull fairly. My method has been to *fill* a skull with dry peas, and then *weigh* the peas—in ounces avoirdupois; the "cubic volume" of an ounce of peas, multiplied by the number of ounces of peas that will go into a given skull, will give the cubic capacity of said skull.

In measuring *skulls* and *heads*, I have made use of the following method—namely: Each mastoid process is made a centre of departure; and the point assumed is at the middle of the surface of the mastoid process, just back of the external meatus auditorius, ordinarily from half an inch to an inch above the mastoid extremity. This point is located nearly in a line with the base of the cerebrum; but it falls somewhat below the insertion of the tentorium; so that some of the cerebellum may rise above this *centre point*, and some of the middle cerebral lobe may fall below a line going from it to the supra-orbital ridge. This point is a mark that can be found at all times.

The measurements of skulls and heads are made in the following directions from one mastoid centre point to the other:

(1) An *anterior arch* just above the supra-orbital ridge.

(2) A *frontal arch* over the frontal eminences.

(3) A *middle arch* nearly over the coronal suture. In better-developed skulls and heads, the coronal suture is further forward; in less-developed skulls and heads, the coronal suture is further backward.

(4) A *superior arch*, nearly over the vertex, and about parallel with the axis of the foramen magnum.

(5) A *posterior arch* over the occipital protuberance, nearly on a line with the insertion of the tentorium. *These are the inter-mastoid arches.*

Also determine—

(6) A diametrical *base-line* from one mastoid point to the other.

(7) The *greatest transverse diameter.*

(8) The *greatest antero-posterior diameter*—leaving out the frontal sinuses.

(9) The *greatest antero-posterior circumference*—leaving out the frontal sinuses, and measuring somewhat above the occipital protuberance.

(10) The *masto-frontal angle, which is included between the planes of the anterior and superior arches.*

And in skulls:

(11) The capacity in cubic inches, and the weight in ounces avoirdupois.

The following table contains the dimensions of 29 skulls:

TABLE NO. 1.

Containing 21 Caucasian, 3 North American Indian, 1 Ancient Egyptian, 1 New Zealander, and 3 Ancient Peruvian, skulls. The dimensions are given in linear and cubic inches, and in degrees; the weight in ounces avoirdupois.

No.	Base-line.	Transverse Diameter.	Antero-post. Diameter.	Circumference.	Anterior Arch.	Frontal Arch	Middle Arch.	Superior Arch.	Posterior Arch.	Weight. Oz. Av.	Internal Volume.	Masto-frontal Angle.
1	4.	5.25	6.875	19.25	11.	12.	12 50	13.	7.5	9.5	65.96	71°
2	5.25	5.625	7.75	21.5	13.5	14	14.	13 75	7.75	23.75	79.29	76°
3	4.5	5.375	7.	19.5	12.	12.75	13.	12.5	7 625	19.	63.81	76°
4	5.	5.5	7.25	20.5	12 5	13.	13.25	13.	7.75	20.25	77.39	75°
5	5.25	5.875	7.625	21.75	13.5	14.5	14.	14.[illegible]	8.	21.625	92.15	75°
6	5.	5.75	7.75	21.25	13.5	14.5	14.	13.75	8.25	22.25	91.44	79°
7	4.75	5.75	7.25	20.5	12.25	13.25	13.5	13.75	7.75	17.	83.34	78°
8	5.	5.875	7.	20.25	13.	14.375	15.	14.25	7.25	24.625	81.51	74°
9	4.25	5.5	7.	20.	12.5	13.25	13.5	12.75	7.25	18.5	73.81	70°
10	5.	5.625	7.25	20.75	13.	14.	13.5	13.	7.375	21.5	81.91	72°
11	4.75	5 625	6.625	19.75	12.25	13 25	13.75	13.5	7 25	22.5	71.73	76°
12	5.	5.75	6 875	20.	12.25	13.125	13.25	13.25	7.5	17.	73.10	79°
13	4.75	5.5	7.	19.875	12.	12.75	13.	13.	7.625	23.75	71.49	76°
14	4.875	5.5	7.125	20.125	13.	13.375	13.25	13.	8.	24.25	72.86	73°
15	4.75	5.375	7.	20.	12.125	12.75	12.625	12.625	8.	18.375	72.39	72°
16	4.375	5.5	7.	20.	12.	13.375	13.5	13.375	7.25	15.5	81.43	75°
17	5.25	5.875	6.75	20.	12.5	13.5	13.75	13.	7.25	17.5	73.81	73°
18	4.875	5.625	7.25	20.5	12 75	13.5	13.75	13.5	8.5	22.	75 24	77°
19	5.	5.5	7.875	22.	14.	14.75	14.5	13.5	8.	23.5	84.77	72°
20	5.	5.5	7.5	21.	12.5	13.5	13.5	13.	8.	20.125	85.48	73°
21	5.25	5 75	7.125	21.	13.	13 75	13.75	13	8.	13.25	84.77	75°
22	5.375	5.625	7.	20.	13.	14.	14.	14.	8.	24.75	84.77	62°
23	5.	6.25	5.75	19.	12.	12.5	13.5	13.625	7.	15.	71.59	70°
24	5.375	6.625	7.5	21.5	14.25	14.5	14.	13.5	8.25	34.25	81.81	67°
25	5.	5.625	6.625	20.	12.25	13.25	13.5	13.25	7.	17.5	70.48	67°
26	5.25	5.75	7.25	20.75	12.75	14.125	14.375	14.125	8.			67°
27											83.00	
28											73.00	
29											69.00	

The following figures were photographed on wood, engraved, and then electrotyped, great care being taken to make them exact copies of the original skulls:

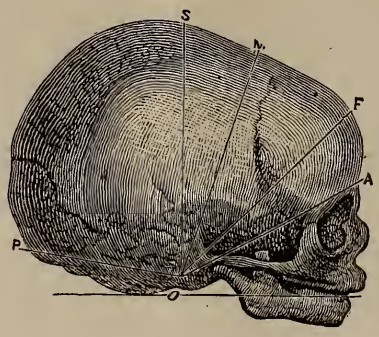

FIG. 1.

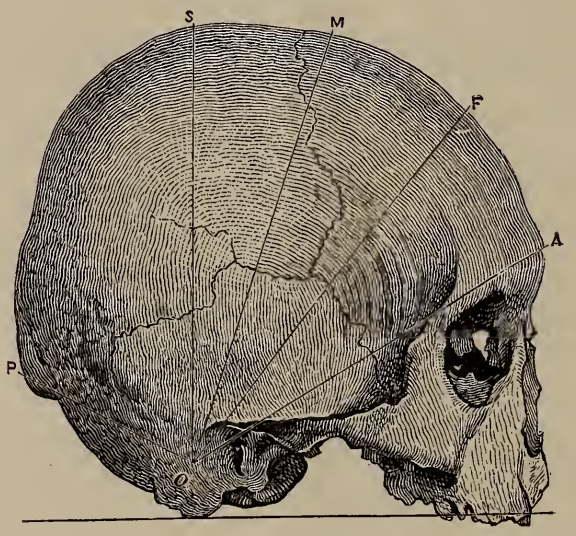

FIG. 2.

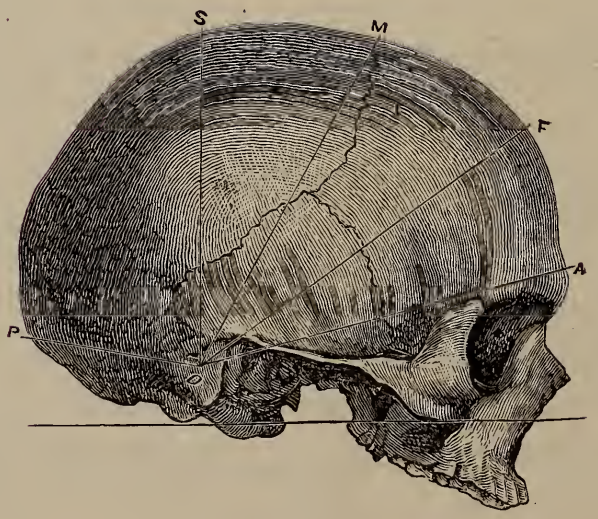

FIG. 3.

EXPLANATION OF PLATE.

FIG. 1. Skull of an infant at birth—full period, No. 2 of Table No. 13.

FIG. 2. Skull of an Indian, No. 22 of Table No. 1.

FIG. 3. Skull No. 21 of Table No. 1. The property of the author.

A O = Right half of anterior arch.

F O = Right half of frontal arch.

M O = Right half of middle arch.

S O = Right half of superior arch.

P O = Right half of posterior arch.

O = Mastoid centre-point.

S O A = Masto-frontal angle.

These skulls, from No. 1 to No. 21 inclusive, belong to the Caucasian race. The age at which the owners of these skulls died is unknown. One of them appears to be the skull of a youth. They are such skulls as are found in a college museum, and no doubt came from the uneducated. They are all in a good state of preservation. The least, the greatest and the average dimensions of these 21 skulls are noted in the following table:

TABLE NO. 2.

Containing the least, the greatest and the average dimensions of 21 Caucasian skulls, and the difference between the least and the greatest dimensions.

Dimensions.	Least.	Greatest.	Average.
Base-line	4. inches.	5.25 inches. 4. "	4.843 inches.
Difference		1.25 inches.	
Transverse Diameter.	5.25 inches.	5.875 inches. 5.25 "	5.6 inches.
Difference		0.625 inches.	
Antero-post. Diam'r.	6.625 inches.	7.875 inches. 6.625 "	7.184 inches.
Difference		1.25 inches.	
Circumference	19.25 inches.	22. inches. 19.25 "	20.43 inches.
Difference		2.75 inches.	
Anterior Arch	11. inches.	14. inches. 11. "	12.625 inches.
Difference		3. inches.	
Frontal Arch	12. inches.	14.75 inches. 12. "	13.488 inches.
Difference		2.75 inches.	
Middle Arch	12.5 inches.	15. inches. 12.5 "	13.565 inches.
Difference		2.5 inches.	
Superior Arch	12.5 inches.	14.25 inches. 12.5 "	13.28 inches.
Difference		1.75 inches.	
Posterior Arch	7.25 inches.	8.5 inches. 7.25 "	7.7 inches.
Difference		1.25 inches.	
Weight	9.5 ounces.	24.75 ounces. 9.5 "	19.613 ounces.
Difference		15.25 ounces	
Volume	63.81 cub. inches.	92.15 cub. inches 63.81 " "	77.984 cub. inches.
Difference		28.34 cub. inches.	
Masto-frontal Angle.	71.°	79.° 71.°	75.5°
Difference		8.°	

The following conclusions may be drawn from Table No. 2:

1. The base-line and the antero-posterior diameter vary equally—that is, 1.25 inches.

2. The transverse diameter varies one-half as much as the base-line—that is, 0.625 of an inch.

3. The circumference varies a little more than twice as much as the base-line—that is, 2.75 inches.

4. As to the inter-mastoid arches: *the anterior arch varies most, the posterior arch varies least, and the variation of the inter-mastoid arches diminishes from before backward.*

5. The weight of the heaviest skull is more than 2.5 times as much as the weight of the lightest.

6. Take two skulls of equal size and similar form: the heaviest would have the least cubic capacity.

7. The cubic capacity varies as much as 28.34 cubic inches. The ratio is as 125 to 182—a usual variation in the weight of the human body; and the weight of the brain ordinarily varies as the weight of the body varies. Hence the difference in the volume of the brain may be partly accounted for by the difference in the size of the body.

8. Other things being equal, *it may be stated that the masto-frontal angle varies as the size of the anterior cerebral lobes varies.* According to Table No. 1, the *size* of the *masto-frontal angle* has no *direct* dependence on the weight of the skull or its cubic capacity; but the masto-frontal angle *seems* to be connected with the development and growth of the anterior cerebral lobes.

On the frontal bone of skull No. 22 is written the following memorandum—namely: "Skull of an Indian from a salt-petre cave, Kentuckty; supposed to have been of a race now extinct, their relics differing from the present proprietors of the soil." Subscribed is the following name, as nearly as it can be deciphered: "B. Farlan, M.D." On the squamous portion of the right temporal bone is another memorandum, namely: "Golconda, Kenty, pre[sented] by Maj. Long, 1826, Indian from a salt-petre cave." I believe this to be the skull of a *mound-builder.* How it came to be in the salt-petre cave is unknown.

No. 23 is the skull of a Flat-head Indian. It is compressed and shortened in the antero-posterior diameter; the transverse diameter is comparatively large; the masto-frontal angle appears to have been *enlarged*—perhaps by *external pressure;* the weight is below the average, and the cubic capacity is *small*—but probably increased by the deformity.

No. 24 is the skull of a New Zealander. The soft parts are dried, and show tattooing. The base of the skull is partly gone, while the lower jaw remains. This skull weighs 34.25 ounces. The cubic capacity is an approximation, but perhaps nearly correct.

No. 25 is the skull of a mummy. It is said to be from a branch of the Caucasian race; and as it belongs to earlier times, and ranks somewhat low in development, it has been placed with the Indian skulls. It is no doubt a fair specimen of the ordinary ancient Egyptian cranium. These 25 skulls are the property of the Long Island College Hospital.

No. 26 is the skull of a Seminole Indian, who was killed during the Florida war. The fatal bullet is still retained in the cranial wall. Judging from the linear dimensions, it has a large cubic capacity. I did not measure its cubic capacity "for fear" of dislodging the historic bullet. It belongs to J. S. Thorne, M.D.

Nos. 27, 28 and 29 are the skulls of ancient Peruvians. They were found in Peru, beyond Lima, near Ancon, under 60 feet deep of sand, where they had been covered for centuries. I have only the figures for the cubic capacities of these three skulls, and I very much regret that I did not make more complete measurements. However, judging from authentic profiles of ancient Peruvian skulls, *the masto-frontal angle must have been not far from 60°*. These three skulls are the property of Harvard University.

Let us denominate the skulls of Table No. 1—from No. 22 to No. 29 inclusive—as *mixed.* They are of lower order than the other skulls of the same table. The least, the greatest and the average dimensions of these mixed skulls are noted in the following table:

TABLE NO. 3.

Containing, in part, the least, the greatest and the average dimensions of 8 mixed skulls, and the difference between the least and the greatest dimensions. The deficiencies will be seen in Table No. 1, for which due allowance must be made.

Dimensions.	Least.	Greatest.	Average.
Base-line	5. inches.	5.375 inches. 5. "	5.2 inches.
Difference		0.375 inches.	
Transverse Diameter.	5.625 inches.	6.625 inches. 5.625 "	5.975 inches.
Difference		1. inch.	
Antero-post. Diam'r.	5.75 inches.	7.5 inches. 5.75 "	6.825 inches.
Difference		1.75 inches.	
Circumference	19. inches.	21.5 inches. 19. "	20.25 inches.
Difference		2.5 inches.	
Anterior Arch	12. inches.	14.25 inches. 12. "	12.85 inches.
Difference		2.25 inches.	
Frontal Arch	12.5 inches.	14.5 inches. 12.5 "	13.675 inches.
Difference		2. inches.	
Middle Arch	13.5 inches.	14.375 inches. 13.5 "	13.875 inches.
Difference		00.875 inches.	
Superior Arch	13.25 inches.	14.125 inches. 13.25 "	13.7 inches.
Difference		00.875 inches.	
Posterior Arch	7. inches.	8.25 inches. 7. "	7.65 inches.
Difference		1.25 inches.	
Cubic capacity of Nos. 22, 23 and 25	70.48 inches.	84.77 inches. 70.48 "	75.61 inches.
Difference		14.29 inches.	
Cubic capacity of 3 Ancient Peruvian Skulls.	69. inches.	83. inches. 69. "	75. inches.
Difference		14. inches.	
Masto-frontal Angle of 5 Mixed Skulls	62.°	70.° 62.°	66.6°
Difference		8.°	
Masto-frontal Angle of 8 Mixed Skulls	60.°?	70.° 60.°	63.6°
Difference		10.°	

The following conclusions may be drawn from Table No. 3:

1. The variation in the transverse diameter is nearly three times as great as the variation in the base-line.

2. The variation in the antero-posterior diameter is nearly five times as great as the variation in the base-line.

3. The greatest variation is in the anterior arch—that is, 2.25 inches.

4. The next greatest variation is in the frontal arch—that is, 2 inches.

5. The next greatest variation is in the posterior arch—that is, 1.25 inches.

6. The variation in the circumference, minus the variation in the posterior arch, gives a result equal 1.25 inches.

7. The variations in the middle and superior arches are equal and least—that is, 00.875 of an inch.

8. The variation in the cubic capacity of the skulls of two North American Indians and one ancient Egyptian is about equal to the variation in the cubic capacity of three ancient Peruvian skulls.

9. The average cubic capacity of the three ancient Peruvian skulls is equal to the average obtained by more numerous measurements.

10. *The masto-frontal angle varies* 8° *or* 10°. *It appears to be a distinguishing mark, the average being less than the average of the more advanced races.*

It must not be forgotten that these conclusions are drawn from a few examples; yet they afford certain indications, which will be noted further on.

The skulls of Table No. 1 may be divided into two classes—namely: (1) *Caucasian*, and (2) *Mixed*. A comparison of these two classes of skulls is noted in the subjoined table:

TABLE NO. 4.

Containing the average dimensions of 21 Caucasian and 8 mixed skulls, and noting the difference.

Dimensions.	Caucasian.	Mixed.	Difference.
Base-line.....	4.843 inches.	5.2 inches.	0.357 inches.
Transverse Diameter.	5.6 "	5.975 "	0.375 "
Antero-post. Diam'r.	7.184 "	6.825 "	0.359 "
Circumference	20.43 "	20.25 "	00.18 "
Anterior Arch	12.625 "	12.85 "	00.225 "
Frontal Arch	13.488 "	13.675 "	00.187 "
Middle Arch	13.565 "	13.875 "	00.31 "
Superior Arch.....	13.28 "	13.7 "	00.42 "
Posterior Arch.....	7.7 "	7.65 "	0.05 "
Volume.....	77.984 Cubic In.	75.305 Cubic In.	2.679 Cubic In.
Masto-frontal Angle.	75.5°	66.6°	8.9°
		8 Mixed.	
Masto-frontal Angle.	75.5°	63.6°	11.9°
	Greatest.	Least.	
Masto-frontal Angle.	79.°	62.°	17.°
	Least.	Greatest.	
Masto-frontal Angle.	71.°	70.°	1.°

A skull going from the hospital or the poor-house to the College Museum must be of low order; a skull of high order may have fallen to low estate; but there is no reason to suppose that any of the 21 Caucasian skulls measured and above tabulated came from the educated. Hence we are comparing the skulls of a low order of the civilized with the skulls of savages. To be sure, the ancient Egyptians and the ancient Peruvians had made remarkable progress in civilization; and it is very probable that the mixed skulls came from the better classes of the races to which they belong. The following conclusions may be drawn from Table No. 4:

1. The base-line and the transverse diameter of the mixed skulls are greater than the corresponding dimensions of the Caucasian skulls—the average excess is 0.366 of an inch.

2. The antero-posterior diameter of the Caucasian skulls is greater than the corresponding dimension of the mixed skulls—the excess is 0.359 of an inch.

3. The circumference of the Caucasian skulls is greater than the corresponding dimension of the mixed skulls—the excess is 00.18 of an inch.

4. *The four large inter-mastoid arches are greater in the mixed skulls than in the Caucasian skulls*—the average excess is 00.285 of an inch.

5. The posterior arch of the Caucasian skulls is greater than that of the mixed skulls—the excess is 0.05 of an inch.

6. *The cubic capacity of the Caucasian skulls is greater than the cubic capacity of the mixed skulls*—the excess is 2.679 cubic inches.

7. There is but little difference in the average weight of the skulls of the two classes—one of the lightest belongs to an Indian.

8. *The masto-frontal angle of the Caucasian skulls is greater than that of the mixed skulls—the excess is about* 9°. The three ancient Peruvian skulls are not included in this conclusion; if they were, the difference would be greater.

9. *The least masto-frontal angle of the Caucasian skulls is greater than the greatest of the mixed skulls.*

10. *The greater cubic capacity of the Caucasian skulls is due—partly, at least—to the greater masto-frontal angle—that is, the anterior lobes of the lower order of Caucasian brain are larger and more fully developed than the correspondeng lobes of savages; and the middle lobes of the cerebra of savages are larger than the corresponding lobes of civilized man; and the posterior cerebral lobes of civilized man are greater than the corresponding labes of savages.* Observations on the brains of the Indians of America confirm these statements. The fact is, that the cerebrum has developed forward and downward—in front. And the examination of the brain

and the measurement of the skull give similar results in regard to the volume of the different parts of the cerebrum.

Let us contrast the dimensions of skulls No. 19, 21 and 22 of Table No. 1 in the following table:

TABLE NO. 5.

Containing the contrasted dimensions of Skulls Nos. 19, 21 and 22 of Table No. 1.

Dimensions.	No. 19.	No. 21.	No. 22.
Base-line	5. inches.	5.25 inches.	5.375 inches.
Transverse Diameter	5 5 "	5.75 "	5.625 "
Antero-post. Diam'r	7.875 "	7.125 "	7. "
Circumference	22. "	21. "	20. "
Anterior Arch	14. "	13. "	13. "
Frontal Arch	14.75 "	13.75 "	14. "
Middle Arch	14.5 "	13.75 "	14. "
Superior Arch	13.5 "	13. "	14. "
Posterior Arch	8. "	8. "	8. "
Weight	23.5 ounces.	13.25 ounces.	24.75 ounces.
Cubic capacity	84.77 cubic inches.	84.77 cubic inches.	84.77 cub. inches.
Masto-frontal Angle	72.°	75.°	62.°

From Table No. 5 may be drawn the following conclusions—namely:

1. *The three skulls have the same cubic capacity.*

2. The three skulls have the same posterior arch.

3. The average values of the four greater inter-mastoid arches are, respectively, 14.187 inches, 13.375 inches and 13.75 inches—a variation in part due to a difference in the thickness of the skull, indicated by the difference in weight, and in part due to the smaller transverse and the greater antero-posterior and vertical dimensions. The lateral compression, as it were, of skull No. 19, accounts for the cubic capacity being the same as Nos. 21 and 22, with greater inter-mastoid arches. A hollow sphere of gold filled with water, being compressed, will diminish in cubic capacity, till the particles of water are forced through the pores to the outside.

4. The three skulls show that the circumference does not truly indicate the cubic capacity. A difference of two linear inches in the circumference of a skull, or a head, may not change its cubic capacity. Hence a skull whose circumference is $\times$ inches may contain as much brain as a skull whose circumference is $\times+2$ inches.

5. A fact of great importance, relating to cerebral development and growth, and connected with the masto-frontal angle, appears, when a *base-plane* is drawn through and from the supra-orbital ridge to and through the occipital protuberance, in a line with the posterior insertion of the tentorium. Skulls Nos. 21 and 22 differ most in the masto-frontal angle. Let us compare them: the base-plane of No. 21 rises about three-eighths of an inch above the mastoid centre point; the base-plane of No. 22 rises about seven-eighths of an inch above the mastoid centre point; and *the difference is one-half inch.* Indeed, it can be seen by simple inspection, that this Caucasian skull has the larger masto-frontal angle, and that this Indian skull has the greater vertical depth.

6. *The masto-frontal angle appears to be a distinguishing mark.*

Let us now, for a time, turn from these skulls to the heads of the living. The hair, which is more or less abundant; the peri-osseous tissues, which are more or less thick; the bones, which vary in weight, and the membranes which cover the encephalon, must be included in measuring the heads of the living; and it would certainly be impossible to tell beforehand the depth of the cortex cerebri or the complexity of the convolutions in a given case; nor can we predict the quality and education of a brain by weighing it, or by measuring the bone-case that contains it. Hence, in a word, our measurements of heads of the living must be *approximate.* And in order to compare the heads of the *uneducated* and the heads of the *educated,* I have measured a certain number belonging to each class.

TABLE NO. 6.

Containing the age, the nativity and the occupation of 21 individuals of the uneducated class, and the measurements of their heads.

No.	Base-line.	Transverse Diameter.	Antero-post. Diameter.	Circumference.	Anterior Arch.	Frontal Arch.	Middle Arch.	Superior Arch.	Posterior Arch.	Masto-frontal Angle.	Age.	Nativity.	Occupation.
1	5.25	6.	7.5	22.	14.	15.	14.5	14.	7.75	77°	18 yrs.	Norway...	Sailor.
2	5.25	6.5	7.625	22.75	13.5	14.5	15.	15.5	8.5	73°	16 "	Norway...	Sailor.
3	5.25	5.875	7.5	22.25	14.5	15.5	14.75	14.	7.75	77°	54 "	Germany..	Sailor.
4	4.75	5.75	7.25	21.	13.375	13.5	13.75	13.375	7.75	75°	14 "	Italy.. ..	Sailor.
5	5.75	6.75	7.625	22.5	14.	14.5	14.25	13.5	8.	80°	39 "	Denmark .	Sailor.
6	5.5	6.	7.625	22.5	14.375	14.625	14.25	14..	7.75	76°	24 "	Norway...	Sailor.
7	5.375	6.	6.875	21.	13.5	13.75	14.25	13.5	8.5	76°	37 "	Italy.....	Sailor.
8	5.375	5.875	7.5	22.	14.5	15.25	14.5	14.25	7.75	80°	22 "	Finland...	Sailor.
9	5.625	6.	7.5	22.25	13.25	14.5	14.	14.	8.25	81°	30 "	U. S. A...	Sailor.
10	5.875	6.375	7.625	22.5	15.	15.	15.	14.5	8.	74°	32 "	Germany..	Sailor.
11	3.375	5.875	7.25	21.5	14.	14.25	14.5	13.75	8.	74°	22 "	Austria....	Sailor.
12	5.25	5.875	7.5	22.	13.625	14.25	14.	14.	7.375	75°	36 "	Ireland ...	Sailor.
13	5.75	5.75	7.25	21.75	14.	15.	14.25	14.	7.5	67°	23 "	Ireland....	Sailor.
14	5.25	5.75	7.375	21.5	13.25	14.25	14.5	14.	8.	72°	57 "	Scotland..	Sailor.
15	5.125	5.875	8.	23.	14.25	14.75	14.5	14.25	8.	80°	57 "	Ireland....	Carpenter.
16	5.375	5.75	7.25	21.75	13.25	13.75	13.5	13.	7.5	76°	22 "	Ireland....	Laborer.
17	5.25	5.625	7.5	21.75	13.875	14.	14.	14.	7.25	80°	29 "	Ireland....	Laborer.
18	5.375	5.875	7.625	22.25	13.	13.875	14.	14.25	8.	79°	22 "	U. S. A.:	Laborer.
19	5.5	5.875	7.5	22.	13.875	14.25	13.75	13.125	7.5	76°	18 "	Denmark .	Sailor.
20	5.5	6.375	7.125	22.125	14.	15.125	14.75	14 5	7.875	77°	56 "	Germany..	Laborer.
21	5.375	6.375	7.375	22.25	14.5	14.5	14.75	14.5	7.875	82°	45 "	Holland ..	Nurse.

The individuals in the preceding table range from 14 to 57 years of age, and only 4 are under 22 years of age; as the brain has usually attained about its full size at 14 years of age, our table will afford a fair average. Ten nationalities are represented. There are four different occupations. The carpenter and the nurse have fine heads. The least, the greatest and the average dimensions of Table No. 6 are recorded in the following table:

TABLE NO. 7.

Containing the least, the greatest and the average dimensions of the heads of 21 uneducated men.

Dimensions.	Least.	Greatest.	Average.
Base-line	4.75 inches.	5.875 inches. 4.75 "	5.386 inches.
Difference		1.125 inches.	
Transverse Diameter.	5.625 inches.	6.75 inches. 5.625 "	6.005 inches.
Difference		1.125 inches.	
Antero-post. Diam'r.	6.875 inches.	8. inches. 6.875 "	7.446 inches.
Difference		1.125 inches.	
Circumference	21. inches.	23. inches. 21. "	22.029 inches.
Difference		2. inches.	
Anterior Arch.	13. inches.	15. inches. 13. "	13.886 inches.
Difference		2. inches.	
Frontal Arch	13.5 inches.	15.5 inches. 13.5 "	14.482 inches.
Difference		2. inches.	
Middle Arch.	13.5 inches.	15. inches. 13.5 "	14.321 inches.
Difference		1.5 inches.	
Superior Arch.	13. inches.	15.5 inches. 13. "	13.964 inches.
Difference		2.5 inches.	
Posterior Arch.	7.25 inches.	8.25 inches. 7.25 "	7.833 inches.
Difference		1. inch.	
Masto-frontal Angle.	67.°	82.° 67.°	76.5°
Difference		15.°	
Next least Masto-frontal Angle	73.°	82.° 73.°	
Difference		9.°	

The following conclusions may be drawn from Table No. 7:

1. The base-line, the transverse diameter and the antero-posterior diameter of 21 heads of uneducated men have a variation of 1.125 linear inches.

2. The circumference, the anterior arch and the frontal arch of the same heads have a variation of 2 linear inches.

3. The middle arch has a variation of 1.5 linear inches.

4. The superior arch has a variation of 2.5 linear inches.

5. The posterior arch has a variation of 1 linear inch.

6. The masto-frontal angle of these 21 heads has a variation of 15°. As 67°, the masto-frontal angle of No. 13 of Table No. 6, is unusually small, (?) it seems to be proper to take the next least masto-frontal angle for comparison. This gives a variation of 9°.

The important question arises: *Are there any distinguishing marks on the head by which we can determine the difference that exists between the uneducated and the educated?—or rather, Can we tell, by examining a head, if it belongs to a lower or a higher order?* Is there a difference in any of the above dimensions? Is there a difference in the size of the inter-mastoid arches? Is there a difference in the circumference? *And is there a difference in the size of the masto-frontal angle?* In order to make an attempt to answer these questions approximately, the following table is subjoined, containing the measurements of the heads of 21 educated men.

TABLE NO. 8.

Containing the height and the weight of 21 educated men, and the dimension of their heads.

No.	Base-line.	Transverse Diameter.	Antero-post. Diameter	Circumference.	Anterior Arch.	Frontal Arch.	Middle Arch.	Superior Arch.	Posterior Arch.	Masto-frontal Angle.	Height in Inches.	Weight in Pounds.
1	5.625	6.375	7.875	23.375	14 625	15.25	15.375	15.	9.	78°	70.	180.
2	5.5	5.875	7.625	22.25	14.875	15.5	15.5	14.875	8.5	79°	69.	165.
3	5.75	6.5	7.75	23.25	14.5	15.5	15.125	14.25	8.25	79°	68.	150.
4	5.25	6.125	7.375	22.25	14.	14.5	14.5	14.5	8.125	80°	70.	175.
5	5.25	6.	8.	23.	15.	15.	15.5	14.75	8.	82°	71.	185.
6	5.125	5.375	7.25	21.5	13.	14.125	14.25	14.5	7.875	80°	68.	125.
7	5.125	6.	7.75	22.375	14.5	14.75	14.375	14	7.625	79°	64.	135.
8	5.75	6.25	7.5	22.75	14.	14 5	14.75	13.875	8.	80°	70.	185.
9	5.25	5.875	7.625	22.25	13.75	14 5	14.5	14.25	8.25	78°	68.	160.
10	5.375	6.	7.625	22.375	13.75	14.5	14.25	14.25	7.75	79°	66.	160.
11	5.125	6.125	7.375	22.25	14.	14.	14.75	13.75	8.5	79°	68.	140.
12	5.5	6.125	7.875	23.25	14.5	15.	15.	15.	8.75	79°	71.	165.
13	5.375	5.875	7.75	22.5	14.25	14.75	14.625	14.25	7.5	77°	71.	148.
14	5.375	6.125	7.75	22.5	15.25	15.25	15.25	15.25	7.75	82°	68.	135.
15	5.25	5.75	7.625	22.	13.5	14.5	14.75	14.75	8.	80°	68.	150.
16	5.375	6.125	7.75	22.625	14.25	14.25	14.5	15.	8.25	81°	68.	138.
17	5.375	6.125	7.875	22.75	14.5	14.5	14.5	14.	8.125	82°	70.5	195.
18	5.25	6.	8.	22.875	14.	14.5	15.	14.375	8.	81°	70.	145.
19	5.375	6.25	7.625	22.5	13.5	14.5	14.5	13.5	8.	81°	65.5	130.
20	5.5	6.	7.875	22.875	14.25	15.25	14.875	14.	8.25	78°	67.	148.
21	5.5	6.	8.	23.25	14.25	15.25	14.875	14.	8.75	81°	70.5	175.

The least, the greatest and the average dimensions of Table No. 8 are arranged in the following table:

TABLE NO. 9.

Containing the least, the greatest and the average dimensions of the heads of 21 educated men; also their heights and weights.

Dimensions.	Least.	Greatest.	Average.
Base-line	5.125 inches.	5.75 inches.	5.38 inches.
		5.125 "	
Difference		0.625 inches.	
Transverse Diameter.	5.375 inches.	6.5 inches.	6.053 inches.
		5.375 "	
Difference		1.125 inches.	
Antero-post. Diam'r.	7.25 inches.	8. inches.	7.708 inches.
		7.25 "	
Difference		0.75 inches.	
Circumference	21.5 inches.	23.375 inches.	22.613 inches.
		21.5 "	
Difference		1.875 inches.	
Anterior Arch.	13. inches.	15.25 inches.	13.7 inches.
		13. "	
Difference		2.25 inches.	
Frontal Arch.	14. inches.	15.5 inches.	14.750 inches.
		14. "	
Difference		1.5 inches.	
Middle Arch	14.25 inches.	15.5 inches.	14 785 inches.
		14 25 "	
Difference		1.25 inches.	
Superior Arch.	13.5 inches.	15.25 inches.	14.387 inches.
		13.5 "	
Difference		1.75 inches.	
Posterior Arch	7.5 inches.	9. inches.	8.154 inches.
		7.5 "	
Difference		1.5 inches.	
Masto-frontal Angle.	77.°	82.°	79.75°
		77.°	
Difference		5.°	
Height	64. inches.	71. inches.	68.376 inches.
		64. "	
Difference		7. inches.	
Weight	125. pounds.	195. pounds.	156.619 pounds.
		125. "	
Difference		70. pounds.	

From Table No. 9 the following conclusions may be drawn—namely:

1. The base-line and the antero-posterior diameter of the heads of 21 educated men vary on the average nearly seven-tenths of an inch.

2. The transverse diameter varies 1.125 inches.

3. The circumference varies 1.875 inches.

4. *The anterior arch varies most—namely, 2.25 inches.*

5. The frontal and the posterior arches vary 1.5 inches.

6. The middle and the superior arches vary respectively 1.25 inches and 1.75 inches.

7. *The masto-frontal angle varies only* 5°.

8. The height varies 7 inches.

9. The weight is a little above the ordinary average, and varies 70 pounds avoirdupois.

The weight of the brain and the weight of the body, other things being equal, have a similar variation.

But our measurements of educated heads show exceptions to this statement.

The average dimensions in Tables No. 7 and No. 9 are noted and contrasted in Table No. 10:

TABLE NO. 10.

Containing the average dimensions of the heads of 21 uneducated and 21 educated men; also the differences of their dimensions.

Average Dimensions.	Heads of Educated.	Heads of Uneducated.	Differences.
Base-line.....	5.38 inches.	5.386 inches.	0.006 inches.
Transverse Diameter.	6.053 "	6.005 "	0.048 "
Antero-post. Diameter	7.708 "	7.446 "	0.262 "
Circumference	22.613 "	22.029 "	00.584 "
Anterior Arch.....	13.7 "	13.886 "	00.186 "
Frontal Arch	14.756 "	14.482 "	00.274 "
Middle Arch	14.785 "	14.321 "	00.464 "
Superior Arch.....	14.387 "	13.964 "	00.423 "
Posterior Arch.....	8.154 "	7.833 "	0.321 "
Masto-frontal Angle.	79.75°	76.50°	3.25°

From Table No. 10 may be drawn the following conclusions—namely:

1. The average base-line of the heads of 21 educated men is practically equal to the average base-line of the heads of 21 uneducated men.

2. The transverse diameter of an educated head is nearly five-one-hundredths of an inch greater than that of an uneducated head, according to Table No. 10.

3. Our measurements, as above recorded, show an excess of the antero-posterior diameter in favor of the educated head of nearly three-tenths of an inch.

4. The average circumference of the heads of 21 educated men is nearly six-tenths of an inch greater than the average circumference of the heads of 21 uneducated men.

5. In favor of the educated head, the excess of the posterior arch is over three-tenths of an inch; the excess of the superior arch is over four-tenths of an inch; the excess of the middle arch is nearly five-tenths of an inch, and the excess of the frontal arch is nearly three-tenths of an inch. The excess of the middle arch is greatest, and the excess of the frontal arch is least.

6. In favor of the uneducated head, the excess of the anterior arch is nearly two-tenths of an inch.

7. In the educated head the masto-frontal angle is greater on the average by 3.25°.

8. The greatest masto-frontal angle of both classes of heads is 82°.

9. The least masto-frontal angle of the uneducated class is 67°, and the least masto-frontal angle of the educated class is 77°. Some of the better of the uneducated were no doubt susceptible of a higher education, while many of them could not have been very much improved. Judging from the masto-frontal angle, the educated head has the anterior parts of the cerebrum most developed.

10. There seems to be an incongruity in regard to the anterior inter-mastoid arch; but when it is remembered that the highest point of the anterior arch is over three degrees—on the average—lower in the educated head than it is in the uneducated head, and that this lowering must materially shorten the anterior arch, *the seeming incongruity vanishes; hence the educated head affords larger measurements than the uneducated head.*

It is desirable to contrast the variations in the dimensions of these two classes of heads. This is done in the following table:

TABLE NO. 11.

Containing the variations in the dimensions of 21 educated and 21 uneducated heads, and the excess of variation.

Dimensions.	Variations: Educated.	Variations: Uneducated.	Excess.
Base-line.....	0.625 inches.	1.125 inches.	0.5 inches.
Transverse Diameter.	1.125 "	1.125 "	0. "
Antero-post. Diam'r.	0.75 "	1.125 "	0.375 "
Circumference.....	1.875 "	2. "	0.125 "
Anterior Arch.....	2.25 "	2. "	0.25 "
Frontal Arch	1.5 "	2. "	0.5 "
Middle Arch.....	1.25 "	1.5 "	0 25 "
Superior Arch.....	1.75 "	2.5 "	0 75 "
Posterior Arch.....	1.5 "	1. "	0 5 "
Masto-frontal Angle.	5.°	15.°	10.°
		9.°	4.°

From Table No. 11 may be drawn the following conclusions—namely:

1. The variation of the transverse diameter of 21 educated and 21 uneducated heads is the same.

2. Twenty-one educated heads vary more in the anterior arch and in the posterior arch than 21 uneducated heads.

3. The base-line, the antero-posterior diameter, the circumference, the frontal arch, the middle arch, the superior arch and the masto-frontal angle, vary more in 21 uneducated heads than in 21 educated heads.

The masto-frontal angle certainly has some dependence on the growth and development of the brain—especially on the growth and development of the anterior portions of the cerebrum. The following facts support this statement—namely:

(1) An educated head has usually a greater masto-frontal angle than an uneducated head—as has been shown in the above recorded measurements: (a) Due to a continuously greater cerebral activity in the process of education; or, (b) Due to an original better development of the cerebrum. In either case, the growth and the development of the anterior lobes of the cerebrum are from below upward, forward and downward. A better brain would accept a better education, and an ordinary brain would be the better on account of education. *A better education and a greater masto-frontal angle are usually associated.*

(2) It will be found by actual measurement that the *masto-frontal angle* of the very young has an average size somewhat less than that of the educated or the uneducated. The measurements of the masto-frontal angle in 22 infants and children are recorded in the subjoined table:

TABLE NO. 12.

Containing the sex, the age and the masto-frontal angle of 12 infants and children, from 3 to 60 months of age.

No.	Sex.	Months Age.	Masto-frontal Angle.
1	Female	27	71°
2	Female	7	70°
3	Female	17½	70°
4	Female	4	68°
5	Male	36	72°
6	Male	17	70°
7	Female	7	75°
8	Male	15	72°
9	Female	12	71°
10	Female	11	71°
11	Female	3	69°
12	Female	36	74°
13	Male	4	63°
14	Female	60	69°
15	Female	42	65°
16	Male	22	75°
17	Male	13	75°
18	Male	19	72°
19	Female	3	72°
20	Male	39	76°
21	Male	21	73°
22	Male	41	77°

There are 10 males and 12 females in the above table. The youngest is 3 months and the oldest is 60 months of age; the average age is about 20 months.

In regard to the *masto-frontal angle:* the *least*—in a male of 4 months—is 63°; the *greatest*—in a male of 41 months—is 77°; and the *average* of the 22 cases is 71.8°.

CONCLUSION.—*The masto-frontal angle increases in size as the brain grows and develops.*

I introduce here the measurements of three small skulls. The *first* from an infant one year of age; the *second* from an infant at birth—born at full term; the *third* from a fœtus born at the end of the seventh month of utero-gestation.

The occipital bone of No. 1 is absent—hence the posterior arch could not be measured. It would probably be about 6 inches.

TABLE NO. 13.

Containing the dimensions of three undeveloped human skulls, in inches.

No.	Base-line.	Transverse Diameter.	Antero-post. Diameter.	Circumference.	Anterior Arch.	Frontal Arch.	Middle Arch.	Superior Arch.	Posterior Arch.	Masto-frontal Angle.
1	3.	4.5	5.5	16.25	8.75	10.125	10.625	11.		70°
2	2.375	3.75	4 5	13.5	7.25	8.125	8.75	9.375	5.5	65°
3	2.	2.75	4.	11.5	6.5	7.125	7.375	7.625	5.	60°

TABLE NO. 14.

Containing the dimensions of seven Indian heads from Central South America.

No.	Base-line.	Transverse Diameter.	Antero-post. Diameter.	Circumference.	Anterior Arch.	Frontal Arch.	Middle Arch.	Superior Arch.	Posterior Arch.	Masto-frontal Angle.
1	4 875	5.625	7.25	20.75	11.	11.125	11 75	12.5	8.	68°
2	4.875	5.625	6.75	19.75	10.5	11.	11 5	12.	8.	69°
3	4.875	5.125	7.	19.75	10.25	11.	10.875	11 5	7.5	66°
4	5.25	5.125	7.125	20.875	12.25	12.25	12.125	11.75	7.75	70°
5	5.	5.25	6.625	19.25	11.	11.5	11.5	11.	7.25	69°
6	4.625	5.	6.625	19.25	11.	11 25	10.75	10.875	7.25	68°
7	4.625	5.375	6.875	19.5	10.5	11.	11.125	11 5	7.5	69°

These heads were brought from C. S. A. by Mr. Ernest Morris.

Two conclusions may be drawn from Table No. 13 and what has previously been stated—namely:

1. The anterior arch will increase in size more in proportion than the posterior arch during growth and development. That is, *the human cerebrum tends to develop forwards.*

2. It may be expected that the masto-frontal angle of the new-born will increase in size from birth to maturity about 15°, thus *giving a greater relative capacity to the anterior part of the cerebral cavity.*

Compare skull No. 2 of Table No. 13, with skull No. 21 of Table No. 1. No. 2 is the skull of an infant at birth; No. 21 is the skull of an adult. Measure from the *centre point* on the mastoid process backward as far as the occiput, and forward in a straight line as far as the supra-orbital ridge. The distances of No. 2 are: backward, 2.5 inches—forward, 2 inches. The distances of No. 21 are: backward, 3 inches—forward, 4.125 inches. In skull No. 2 the distance backward is proportionally greater, and in skull No. 21 the distance forward is proportionally greater. Suppose skull No. 2 to grow to be as large as skull No. 21, *it must grow more rapidly forward than backward.* On the supposition that the expansion of the anterior cerebral lobes takes place in every direction, other things being equal, *it would take place in part downward, and this would increase the size of the masto-frontal angle. And this result we would expect on simple physical principles; for the base of the skull in front is composed largely of thin plates of bone, that would yield as readily as the skull-cap before the continuous pressure of the developing brain.*

It may be noted that the cerebellum grows faster than the cerebrum; for the ratio of these two parts of the infant-brain, 1:14, changes in the adult-brain to a ratio of 1:8.6. And it may be noted that the anterior arch increases more in size during growth than the posterior arch. Hence the cerebellum must increase in size downward and upward. As the cerebellum grows, (1) The tentorium must heave up somewhat more, and (2) The base of the skull, from the posterior arch to the foramen magnum, must "bulge" somewhat more. An adult needs a proportionally greater cerebellum than an infant.

3. I have measured 7 Indian heads brought from Central South America. They are said to be the heads of cannibals, who are called Parrintintins, and dwell above the sources of the Tapajos River. These heads are war-trophies. They are preserved by the smoke of an indigenous root called *carrocopowpow*, and have decorations in their ears, eyes and mouths. They have long tangled hair, which is shaven about as far back as the middle arch. The hair and the ear-decorations made the measuring difficult; yet with care I have been able to fix upon the approximate dimensions recorded in Table No. 14.

TABLE NO. 15.

Containing the least, the greatest and the average dimensions of the seven Indian heads in Table No. 14, also the difference of the least and greatest dimensions.

Dimensions.	Least.	Greatest.	Average.
Base-line	4.625 inches.	5.25 inches. 4.625 "	4.875 inches.
Difference		0.625 inches.	
Transverse Diameter.	5. inches.	5.625 inches. 5. "	5.303 inches
Difference		0.625 inches.	
Antero-post. Diam'r.	6.625 inches.	7.25 inches. 6.625 "	6.892 inches.
Difference		0.625 inches.	
Circumference	19.25 inches.	20.875 inches. 19.25 "	19.875 inches.
Difference		1.625 inches.	
Anterior Arch	10.25 inches.	12.25 inches. 10.25 "	10.928 inches.
Difference		2. inches.	
Frontal Arch	11. inches.	12.25 inches. 11. "	11.303 inches.
Difference		1.25 inches.	
Middle Arch	10.75 inches.	12.125 inches. 10.75 "	11.375 inches.
Difference		1.375 inches.	
Superior Arch.	10.875 inches.	12.5 inches. 10.875 "	11.589 inches.
Difference		1.625 inches.	
Posterior Arch	7.25 inches.	8. inches. 7.25 "	7.607 inches.
Difference		0.75 inches.	
Masto-frontal Angle.	66.°	70.° 66.°	68.42°
Difference		4.°	

From Table No. 15 may be drawn the following conclusions—namely:

1. The base-line, the transverse diameter and the antero-posterior diameter of 7 Indian heads have the same variation, in this respect corresponding to the heads of 21 uneducated men. The variation of the latter is 1.125 inches; the variation of the former is 0.625 of an inch.

2. The circumference and the superior arch of 7 Indian heads have the same variation.

3. The anterior arch of 7 Indian heads and the anterior arch of 21 uneducated heads have the same variation.

4. The variation in the masto-frontal angle is only 4°, while the average masto-frontal angle is 68.42°.

TABLE NO. 16.

Containing the average dimensions of 21 educated and 7 Indian heads, and the differences.

Average Dimensions.	21 Heads of Educated.	7 Heads of S. A. Indians.	Differences.
Base-line.....	5.38 inches.	4.875 inches.	0.505 inches.
Transverse Diameter.	6.053 "	5.303 "	0.65 "
Antero-post. Diam'r.	7.708 "	6.892 "	0.816 "
Circumference	22.613 "	19.875 "	2.738 "
Anterior Arch.....	13.7 "	10.928 "	2.772 "
Frontal Arch	14.756 "	11.303 "	3.456 "
Middle Arch.....	14.785 "	11.375 "	3.41 "
Superior Arch.....	14.387 "	11.589 "	2.798 "
Posterior Arch	8.154 "	7.607 "	0.547 "
Masto-frontal Angle.	79.75°	68.40°	11.35°

From the above table may be drawn two important conclusions—namely:

1. There is a notable difference in the anterior, frontal, middle and superior arches of these Indian and the educated heads. The educated heads are relatively large in these arches.

2. There is a notable difference in the *masto-frontal angle* of the two classes of heads: *The educated head has an excess of* 11.35° *over the Indian head. Hence the educated head contains a preponderance of brain in the anterior parts of the cerebral cavity.*

Some important facts in regard to cerebral development may be mentioned here:

1. In early life the cerebrum is relatively of large size, when compared with the cerebellum, the average ratio being as 14 to 1.

2. In savages the middle cerebral lobes—so-called—are relatively of large size, when compared with the anterior cerebral lobes, or the posterior cerebral lobes.

3. In idiots the cerebrum is relatively of small size, when compared with the cerebellum, the ratio being as 4 to 1, and even as low as 3 to 1.

4. In the adult, the extent, the thickness and the *quality* of the cortex cerebri correspond to the intellectual capacity:—gold is better than silver, water is better than wine, and bread is more edible than stones.

The size and form of the human head afford important indications as to the intellectual capacity. It appears that the direction and the extent of the growth of the cerebral lobes from the vicinity of the optic thalami and the corpora striata have very much to do with the manifestation of intelligence. The parts of the cerebrum in front of the base-line are the most essential; and, so far as size is concerned, the greater volume of the contents of the anterior part of the cerebral cavity denotes a higher activity and a greater capacity. And by this it is admitted that the mere volume of the *cranial* cavity is not an accurate index of *cerebral* capacity; and that the volume of the *cerebral* cavity does not give exact information in regard to intellectual activity. But the volume of the cerebrum in front of the base-line does in some respects correspond to a better development and a higher culture, as the facts enumerated above tend strongly to show.

The weight of the encephalon cannot be made an absolute standard of comparison, even when it is remembered that this weight often varies as the weight of the body varies; and the weight of the cerebrum alone cannot be made a standard of comparison: for a comparison of weights is not a comparison of cerebral activities. To be sure, the weight of the brain—*other things being equal*—would be some indication of capacity. But the brain is made up of different parts, having different functions. And the difficulty of determining the volume and weight of one of these parts, the cortex cerebri, has already been pointed out. The weight of diseased brains and uneducated brains has been above the average. This only shows a great bulk of poor material. On the other hand, some of the best work the world has ever seen has been done by brains of average weight. The cerebra may have been relatively large; but of this we have no record. But while the cortex cerebri of the adult brain is thicker and more convoluted than it is in the infant, the aged, the savage and the idiot, it must at all times have the quality that comes from use. A physical illustration will aid our conceptions here. A bar of soft iron and a bar of soft iron magnetized may be equal in volume and have the same weight; one can lift nothing—the other can lift many times its own weight of iron. The magnet has a special property which the bar of soft iron has not; and that, to be sure, makes a very great difference. *The educated cerebrum has a special property which the cerebrum of the infant, the savage or the uneducated does not possess, and which mere weight and volume cannot give; and that, too, makes a very great difference.*

The estimates of cerebral capacity and power that are based on the results of brain-work—for these results must come from the co-activity of the various parts of the brain—certainly have an approximate value. *The question is as to the results of brain-work.* We have been considering

the brain itself in its bone-case: we now briefly allude to the work that the brain can do. Contemplating the achievements of art and science in what we know of the world's history, could we for a moment doubt *that the best work has been done by the best brains?* Compare the head of an ordinary mummy with the head of the "chief of the *Artificers* of the abode of Ammon." Could the conquests of modern chemistry be made by the African, the Mongolian, or the Patagonian? Could the school-boy compete with Plato in the *Phrontistery?* Could the house-carpenter understand the constructive thoughts of Michael Angelo? Could the gladiator write poetry? Could the Arab make the laws of Lycurgus? Could the nomads of the Pampas construct the roads, the fortresses and the temples of the ancient Peruvians? It is not difficult to answer such questions as these. And an answer involves the admission that quantity, quality and *use* are intimately concerned in the manifestations and the results of intellectual energy. That is, brain-work depends on the *quantity*, the *quality* and the *use* of the *brain*, especially the *cerebrum*, and more especially the *anterior part* of the cerebrum, ordinarily indicated by the *size* of the *masto-frontal angle.* And if there is not a causal relation between the facts, there is certainly a strangely constant association of two important sets of facts: *for the lower orders of the human race have a small masto-frontal angle; and the higher orders of the human race have a large masto-frontal angle.*

It now seems desirable to draw the following conclusions:

First. In regard to 21 skulls of a lower order:

(1) The average base-line is 4.843 inches.
(2) The average transverse diameter is 5.6 inches.
(3) The average antero-posterior diameter is 7.184 inches.
(4) The average circumference is 20.43 inches.
(5) The average anterior arch is 12.625 inches.
(6) The average frontal arch is 13.488 inches.
(7) The average middle arch is 13.565 inches.
(8) The average superior arch is 13.28 inches.
(9) The average posterior arch is 7.7 inches.
(10) The average cubic capacity is 77.984 cubic inches.
(11) The average weight is 19.613 ounces avoirdupois.
(12) The average masto-frontal angle is 75.5°.

Second. In regard to 21 uneducated heads:

(1) The average base-line is 5.386 inches.
(2) The average transverse diameter is 6.005 inches.
(3) The average antero-posterior diameter is 7.446 inches.
(4) The average circumference is 22.029 inches.
(5) The average anterior arch is 13.886 inches.
(6) The average frontal arch is 14.482 inches.
(7) The average middle arch is 14.321 inches.
(8) The average superior arch is 13.964 inches.
(9) The average posterior arch is 7.833 inches.
(10) The average masto-frontal angle is 76.5°.

Third. In regard to 21 educated heads:

(1) The average base-line is 5.38 inches.
(2) The average transverse diameter is 6.053 inches.
(3) The average antero-posterior diameter is 7.708 inches.
(4) The average circumference is 22.613 inches.
(5) The average anterior arch is 13.7 inches.
(6) The average frontal arch is 14.750 inches.
(7) The average middle arch is 14.785 inches.
(8) The average superior arch is 14.387 inches.
(9) The average posterior arch is 8.154 inches.
(10) The average masto-frontal angle is 79.75°.

Fourth. In regard to 8 mixed skulls:

(1) The average base-line is 5.2 inches.
(2) The average transverse diameter is 5.975 inches.
(3) The average antero-posterior diameter is 6.825 inches.
(4) The average circumference is 20.25 inches.
(5) The average anterior arch is 12.85 inches.
(6) The average frontal arch is 13.675 inches.
(7) The average middle arch is 13.875 inches.
(8) The average superior arch is 13.7 inches.
(9) The average posterior arch is 7.65 inches.
(10) The average cubic capacity is about 75 cubic inches.
(11) The average masto-frontal angle is about 65°.

Fifth. In regard to 7 South American Indian heads:

(1) The average base-line is 4.875 inches.
(2) The average transverse diameter is 5.303 inches.
(3) The average antero-posterior diameter is 6.892 inches.
(4) The average circumference is 19.875 inches.
(5) The average anterior arch is 10.928 inches.
(6) The average frontal arch is 11.303 inches.
(7) The average middle arch is 11.375 inches.
(8) The average superior arch is 11.589 inches.
(9) The average posterior arch is 7.607 inches.
(10) The average masto-frontal angle is 68.4°.

In fine, the inter-mastoid arches and the masto-frontal angle are, as it were, the expression of distinguishing traits in individuals and in races; and their size is more or less affected by development, growth and education; *but the masto-frontal angle is in general the most significant mark.*

THE REMEDIAL EFFECTS OF SEA AIR AND SEA-BATHING IN THE DISEASES OF CHILDREN.

BY JEROME WALKER, M.D.

"Marine medication," as Brochard calls the therapeutical application of sea air and sea-bathing, has not been considered in this country, even by physicians, as an ally of *much* importance in the treatment of the diseases and disorders of childhood, until within the last eight years. Now, owing to the enthusiastic little books of Brochard* and Parsons, to the suggestive hints in our recent text-books on therapeutics, and to the many facilities for reaching the sea-shore within our reach, there is danger of abusing a valuable aid in the restoration of health.

To point out the exact value of "marine medication," as shown by the results obtained at the public sea-side homes, established for the debilitated children of our cities, is the object of this short paper.

The first sea-side home in this country was opened for the children of Philadelphia, at Atlantic City, N. J., in 1871. It is well arranged for quiet, isolation and executive work, consisting of a main building, sixteen cottages, a large pavilion for mothers and sick children during the day, and suitable out-buildings. For the last four summers 746 children have been cared for (the majority being under 5 years of age), and as many mothers as were necessary to care for the youngest children.

During the summer of 1875, 129 children were cared for, the average stay being ten days. 50 children were suffering from "debility"; 15 from diarrhœa; the remainder from strumous disease of the bones, joints and mucous membranes, or were convalescents from fevers or operations. Of the 129 cases, 86 were discharged well, 40 improved and 3 unimproved —none died.

In 1876, 206 children were cared for; 93 cases of "debility," 47 of diarrhœa, 25 of joint diseases, and the remainder were cases of strumous disease, difficult dentition or were convalescents. The stay of the cases of joint disease was prolonged to 6 or 12 weeks, while the average stay of the whole number of cases was 21 days. Of the 206 children cared for, 156 were discharged well, 45 improved, 2 were unimproved, and 3 died, one of tubercular meningitis, the other 2 of summer diarrhœa, within a few hours after admission.†

*Sea Air and Sea-Bathing, 1865.

†Annual Reports of the Atlantic City Home.

Dr. Wm. H. Bennett, the physician in charge of the Atlantic City House, writes*, that in his opinion "some diseases are made worse by a short stay at the sea-shore, others are uninfluenced, and others still are benefited." In the first class he places most of the diseases of the skin and the inflammatory diseases of the eye, except when of strumous origin, or after a prolonged stay at the sea-side.

The second class, or that uninfluenced by sea air and bathing, includes cases of heart disease, Bright's disease, epilepsy and loco-motor ataxia. While the third embraces asthenia, convalescence from surgical operations, long sickness, and even from scarlatina, cases of chronic nasal and pharyngeal catarrh, consumption in its early stages, before breathing is impaired, joint diseases and chorea. The doctor believes that children suffering from debility and summer diarrhœa ought to have at least ten days or two weeks at the sea-side to derive permanent benefit, and for joint diseases several weeks. This is my experience also.

In July, 1875, the Sea-shore Home for Boston was opened at Beverly, Mass. The building occupied is one formerly used as a boarding-house. In 1875, 133 children were cared for; over one-half were less than three years old, 64 were convalescents, the remainder were cases of cholera infantum or scrofulous disease. There were discharged well 93, relieved 25, not relieved 13, and 2 died. The average stay was 10½ days—the shortest 1 day, the longest 77 days.

In 1877, 79 children were received; 17 cases of cholera infantum, 31 of diarrhœa, 9 of dysentery, 8 of debility. Typhoid fever broke out, owing to defective drainage, so the mortality was increased. Of 79 children, 53 were discharged well, 18 relieved, 1 not relieved, and 7 died (all under 2 years of age)—3 of cholera infantum, 2 of diarrhœa, 1 of dysentery and 1 of typhoid fever. As predisposing causes of death, Dr. Ed. T. Williams, the physician in charge of the Beverly Home; claims that 3 of the children under one year of age were never nursed, while two more were prematurely weaned. The two in their second year were *over*-nursed. The doctor writes†: The average stay at our home is 9 days. "There is an almost invariable improvement in pretty much every class of cases except *lung troubles*. I never anticipate trouble with children, however sick, when nursing. All the deaths so far have been of children under two years of age, and among those not nursed or over-nursed." Dr. Ayer‡ has noticed what I have repeatedly observed, "that many

*Philade'phia *Medical and Surgical Reporter*, Feb. 16th, 1878, and Correspondence.

†Correspondence.

‡Formerly Physician to Beverly Home.

severe cases of cholera infantum begin to improve immediately after their arrival at the sea-shore; that if no improvement is noticed by the end of second or third day, it is rare to occur at a later date."

In 1876 the West Side Relief Association, of New York City, established a home at Far Rockaway. The Resident Physician states that the Home receives about 100 children at one time; that the average stay is 7 days; that the cases are mainly "debility" and diarrhœal affections; that the majority of children improve rapidly; and that among the younger children those nursed do better than those not nursed. In 1876 the last of the four sea-side homes now in existence was opened at Coney Island by the Children's Aid Society of this city, for the debilitated children of Brooklyn. A building was erected on the pavilion plan, capable of accommodating 70 inmates. Last year a two-story extension was added, increasing the capacity from 70 to 180 inmates. This coming season it is the purpose of the generous donor of the buildings to erect, in addition, a suitable two-story building, of eight rooms, for the accommodation of the very sick children, which will every year increase in number, as physicians see good results. During the first year the Home had no physician's record. Last year (1877) the Home opened June 18th and closed September 15th, a period of thirteen weeks. On July 9th it became my duty to visit as the attending physician. Before that date there was no medical record; consequently what I may offer this evening cannot give an account of *all* the work accomplished, but is sufficient from which to draw useful deductions. During the thirteen weeks, the Home received 565 mothers and 1,601 children; or, 240 under one year of age, 663 over one year and under five years, and 698 over five years. Of the 565 women received, 39 accompanied children from various private institutions in this city. The children so received numbered 154. These women and children were, in the main, treated by the physicians attached to the respective institutions. These physicians expressed themselves as well pleased with the good results obtained.

Fully three-fourths of the children admitted under five years of age were convalescents, or were suffering from some form of gastric or intestinal trouble incident to a city residence and hot weather; and nearly all recovered after a week's stay, this being the average duration of stay. Certain cases were kept over Sunday; but, as a rule, it was thought best to have the Home without inmates for one day and a half each week, on sanitary grounds.

A record was deemed necessary only for those needing medicines and special diet; hence but 141 children were placed on the sick-list. The summer's experience showed that sea air and proper sea-bathing, with good, substantial and well-cooked food, restored the majority of the

asthenic children to health, and that these means, with a week's freedom from household cares and worries, toned up the nervously-exhausted woman, and enabled women to nurse well who before could do so but imperfectly. Of the 141 children, 46 recovered, 40 were somewhat improved, 38 greatly improved, 11 not improved, and 6 died, as will be seen by the following tabulated statement:

DISEASE.	Number of Cases.	Duration before admission.	Ages of Children.	Cured.	Improved.	Greatly improved.	Not improved.	Died.
1. Chronic diarrhœa, with vomiting and wasting.....	37*	3 weeks to 3 mos.	8 mos. to 19 mos.	5	19	5	3	3
2. Chronic diarrhœa, with wasting.....	16	1 to 7 mos.	5 mos. to 2 years.	6	6	3	.....	1†
3. Prostration after severe illness; much wasting.....	20	indefinite	2 mos. to 6 years.	5	5	8	3‡	1
4. Recent diarrhœa, with vomiting.....	4	3 days to 1 week.	3 mos. to 1 year.	2	1	1	.....	....
5. Recent diarrhœa.....	17	1 to 2 weeks.	3 mos. to 3 years.	3	5	6	3	....
6. Acute intestinal catarrh...	2	1 day.	2½ and 3 years.	1	....	1‖	.....	....
7. Dysentery.....	3	2 weeks to 3 mos.	.....	....	2	.....	.....	1§
8. Various digestive disorders, with slight wasting.....	9	1 week to 3 mos.	6 weeks to 7 yrs.	5	2	1	1	....
9. Malarial debility.....	3	2 mos. to 6 mos.	3 yrs. to 13 years.	1	....	1	1¶	....
10. Skin diseases, eczema, erythema, uticaria, boils, scrofulous abscesses.....	10	.....	... .	3	...	7	.....	....
11. Dentition, excessive appetite, bronchitis and nervous excitability.....	20	.....	.....	15	....	5	.....	....
TOTAL.....	141			46	40	38	11	6

* In all vomiting ceased by second day; one not improved, never will be, on account of incompetent mother. DEATHS—1st. One child went home July 14th, improved; had second attack, cholera infantum; returned August 8th; died August 10th. 2d. Came August 3d, in state of collapse; died August 4th.

† Had had convulsions before coming

‡ One grew worse. Salt water bathing a great benefit in these cases.

‖ Severe case; died at home.

§ Improved, went home, relapsed, returned and died. During week from August 13th weather very damp, developing some cases; but all were cured.

¶ Disease developed after arrival.

Many very sick children began to improve within a few hours after arrival, some recovering ultimately; others had their lives prolonged beyond the time allotted to such cases in the city. This last result was especially marked in a child from the Sheltering Arms Nursery, suffering from gastro-enteritis, complicated with congestion of brain and lungs. The child lingered along for over a week, one day better, the next not, and finally died.

Dr. Bunker, the Physician to the Nursery, sent the following note:

"DEAR DOCTOR:—You have done the very best possible for a case that was considered *hopeless* before going down."

It will be seen by preceding statements that a certain proportion of the sick were not benefited or were made worse. The explanation of the various results obtained will be found in the following summary:

The air at the sea coast—its value.

The tonic properties of sea air are due, 1st. To the saline particles found in the spray or "dust of the sea," and which are carried hither and thither by the winds and waves; and, 2d. To the freshness of the sea-breeze, which is at its best when blowing "from a good point, over a large extent of open sea, when it has not been confined by any obstacle or has not been mixed in its passage with any deleterious exhalations," or is not much dampened by rain-fall. From the peculiar formation of the coast, Coney Island and Rockaway are more exposed to sudden damp winds than Atlantic City or Beverly, which have water in front only. Owing to these damp winds, weakly children may be suddenly prostrated with a diarrhœa or bronchitis. Then, too, the dampened sand does not dry as quickly as at Atlantic City. For these reasons an existing bronchitis or diarrhœa may be aggravated at Coney Island, in spite of care, when it would not be at the former place. The insensible, as well as the sensible gases of putrefaction, are particularly poisonous to weakly children. The New York garbage boats, as they passed through the Narrows and beyond, sent landwards an odor which more than once prostrated the sickly ones.

The blowing of steam whistles, the clangor of bells and the babel of sounds incident to crowded sea-side resorts are prejudicial to rest and recovery.

A land breeze, if a hot one, is much more debilitating than any similar one from the sea. It induces nervous exhaustion, vomiting and diarrhœa. Seldom do we find ourselves at the sea-shore for more than an *hour or two* without an appreciable breeze. The nights are generally cool enough for sleep; while the cool salt winds through the day tone up the skin, and its ally, the mucous membranes, inducing a healthy appetite, good digestion, free circulation and strengthened nerve-power. Digging in

the warm sand, running, playing, the sun-bath, together with suitable diet and sea-bathing, assist the atmosphere.

Sea-bathing—its value.

Sea-bathing owes its efficacy to the temperature of the water, to its chemical composition, its density, its motion and its absorption by the skin, to the invigorating properties of the air, to the excitement, and to the necessary muscular exercise. The first effect of a sea bath is to chill the surface of the body, to pucker the skin, to drive the blood inwards; then comes the reaction, followed by depression or the "second shiver," which, if prolonged, may prove serious; consequently children should be removed from the water before this occurs and thoroughly dried, or allowed first to run about in the sun for a few moments. The best and safest time for children to bathe is when the tide is at its full. Weakly children may be educated oftentimes to sea-bathing, by beginning with sponge-baths of warmed salt water. Even babies under six months of age may be benefited by a dip or two in the sea. Daily bathing will answer for the majority of children; but there are children who cannot bear more than one or two baths per week. Frightened children are better out of the water than in. Sea-bathing, properly used, at proper times, increases the appetite, softens and invigorates the skin, increases the flow of blood, the number of respiratory movements and the action of the heart, encourages elimination, growth and development. When improperly used, too often, or for too long a time, in persons of thin skin or of great nervous susceptiblity, it causes nervous prostration, diarrhœa, dysentery, eczematous diseases of the skin, boils, earache, headache, vomiting, faintness, and in one case that I saw, intermittent fever.

Diseases and disorders relieved by marine medication.

There is no doubt but that chronic conditions are generally relieved sooner than acute ones; yet vomiting and diarrhœa the result of hot weather will almost invariably cease within 48 hours after the child reaches the sea-shore, if the fresh, but dry, sea-breezes prevail.

General debility, the various diathetic conditions, atonic dyspepsia, the indigestion of spoiled children, chorea, hysteria, atonic and malarial congestions of the abdominal viscera, nervous excitability, chronic catarrh and cough, incontinence of urine dependent upon nervous debility, stomatitis, difficult dentition, scrofulous affections of the joints, and impetigo, are much benefited, especially after a prolonged stay at the coast of several weeks. It is probable that some children relieved at sea-side homes return to the heat and unsanitary surroundings of cities only to die, while others have been tided over into the calm waters of health. It is certainly to be regretted that a more prolonged

stay cannot be made in some cases—but the "greatest good to the largest number," is the prevailing sentiment among philanthropists.

Diseases and disorders not relieved.

Rheumatism of the muscular and fibrous tissues, heart disease, epilepsy, diseases of the spinal cord, or any affection which requires as necessities rest and freedom from noise.

Diseases and disorders made worse.

Consumption, when the breathing is impaired, diarrhœal affections, when associated with passive congestion or with inflammation of the lungs or brain, meningeal troubles, most cases of eye affection, unless dependent on struma, when they are relieved, and skin eruptions, mainly of a neurotic character.

In addition to sea air, sea-bathing, exercise, good food and proper nursing, a motherly care is necessary, to raise children at the sea coast, as well as inland. Allowing children to eat peanuts, candy and greasy cakes, to drink large quantites of water, to be thinly clad at inopportune times, causes much sickness; while diarrhœa is produced in this way, it is equally true that children perfectly regular as to their evacuations at home become constipated on first going to the sea-shore, owing to checking of the perspiration, congestion of the liver and consequent diminished secretion; or diarrhœa and dysentery are the results of a congested intestinal canal. Dr. Bennett writes that he has "found many persons suffering from piles who seldom or never suffered with them elsewhere."

The children in our large cities who most need a change of air are those under 5 years of age, those who are sick or debilitated, those from tenement houses and private and public institutions for children, those who have weakly mothers to care for them. These, it is hoped, the gentlemen of this Society will send to us during the summer of 1878. With the advantage of one summer's experience and improved quarters, it is believed that better results will yet be obtained than have hitherto been. The time should come when permanent "homes" will be established in the mountains and on the sea coast. In these will the best results be obtained.

JABORANDI IN A CASE OF PUERPERAL CONVULSIONS.

BY H. B. WHITE, M.D.

Mrs. C., primipara, called me in December 6th, 1877, about nine P. M. According to her reckoning she had come to full term of pregnancy. Her general health had been excellent till within a few days. She had no regular pains, only a slight uneasiness in the small of her back; but she complained of a strange feeling in the head, and of swelling of the feet and legs, which had been coming on for several days, so that now she could scarcely walk about the room.

On examination found both labia very much distended, feeling firm and hard almost as bone. Uterus high up, os reached with difficulty, and dilatation not commenced. Her bowels had been opened, but for several days she had passed but little "water," and for the last twenty-four hours "not a table-spoonful," as she expressed it. Anticipating serious trouble, I sent for Dr. Skene, in consultation. Various plans were discussed for preventing mischief, or meeting it when it should take place, when, finally, jaborandi being suggested, it was resolved to give it a trial, in hopes there would be time, before labor commenced, to reduce the anasarca, and perhaps stimulate the kidneys to action. Prepared one drachm of the leaves by infusion, and gave one-third about 10 P. M., to be repeated every half hour.

At 11.45 she had the first convulsion, without previously complaining of any pain. Commenced dilatation with the finger, which was continued from time to time at short intervals. Second convulsion occurred at 1.30 A.M., the third at 3.15, and the fourth at 5, being one and three-quarter hours between each attack. At this time the swelling of the right labium had almost entirely subsided, while the left was much smaller and softer, the effect, I am inclined to believe, of that one dose of jaborandi. The os being tolerably well dilated and dilatable, and the patient under the influence of chloroform, Dr. F. H. Stuart, who had kindly come to my assistance in the absence of Dr. Skene, applied the forceps without difficulty, and accomplished the delivery of a small, feeble child, at about 6 A. M., six and one-fourth hours after the first convulsion.

At 7.30 convulsions again came on with shorter intervals, the patient remaining during the intervals unconscious, or in a semi-conscious state.

Ordered the following: Bromid. potas., ½ drachm; chloral hydrate, 15 grains; aqua, 1 ounce. Mix. To be taken every half hour, if necessary, to control the spasm. Three doses were taken, when the convulsions seemed to be somewhat arrested, but the anasarca was on the increase. The whole body was enormously distended with fluid, the calf of the leg measuring 16½ inches in circumference, the neck filled out even with the face and breast, and the tongue and fauces so much swollen as to apparently interfere with respiration, producing a fear of impending suffocation. Breathing stertorous, and patient taking no notice of, or interest in, what was going on around her.

At about 3 P.M. I commenced the jaborandi, giving 1 drachm in divided doses at short intervals. It soon produced an abundant flow of saliva and copious perspiration, with immediate relief to all the distressing symptoms. Early the next morning, the 8th, gave 2 drachms of jaborandi, causing, as before, very copious perspiration, so that all the clothes about the patient were literally drenched; the salivary glands were active, and the secretion from the kidneys abundant, the patient passing water freely every four to six hours. The dropsical swelling rapidly subsided, especially about the neck; the respiration was entirely relieved, but confusion of mind still remained. On the 9th repeated the medicine (2 drachms) with like satisfactory results, the patient regaining complete consciousness, the swelling of face and neck almost entirely gone, and the calf of the leg reduced in 48 hours from 16½ inches in circumference to 11 inches.

From this time the patient made a good recovery, getting up in the usual time.

I regret that the urine was not examined previous to delivery; but the specimen taken after jaborandi was given showed but a moderate amount of albumen.

I know that one swallow does not make a summer, nor one dose of medicine establish a fact in therapeutics; but I believe that the jaborandi, by its prompt action in reducing the anasarca, and restoring the kidneys to their normal function, contributed largely to the safety of the patient. If jaborandi had been given two or three days before the commencement of labor, would it have prevented the convulsions? It is certainly worthy of a fair trial.

PATHOLOGICAL SECTION OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Regular Meeting, March 14th.

The President, Dr. F. W. Rockwell, in the chair.

REPORT OF MICROSCOPICAL COMMITTEE.

The tumor of the lip, presented by Dr. Schenck at the last meeting, was found to be a *flat epithelioma.*

The tumor of the testicle, presented by Dr. Schenck at the same meeting, seems, so far as studied, to be a *round-celled sarcoma.*

GALL STONES.

Dr. Bunker exhibited a gall bladder filled with gall stones which had been presented to the Museum of the Section by Mr. Louis Preble, medical student. It had been taken from the body of a woman who died in St. Catharine's Hospital. No definite history.

ULCER OF STOMACH.

Dr. H. J. Garrigues presented the stomach from a woman with the following history:

Mrs. T——, æt. 58 years.

The friends stated, after her death, that she had "always" complained of pain in the left side, and had suffered particularly after eating. On the day previous to her death she felt quite well, and went to the theatre in the evening. During the night she was seized with violent pain in the abdomen, which soon became swollen.

The extremities soon began to grow cold, and she died the following evening, less than twenty-four hours from the beginning of the attack.

Autopsy.—The body was well nourished. Rigor mortis. Cadaveric lividities.

The lower two-thirds of the abdomen distended and tympanitic. When the abdominal wall was incised, gas escaped and the swelling subsided somewhat.

Peritoneum.—Visceral and parietal much injected. The *peritoneal cavity* contained a large amount of fibrino-purulent fluid, with flocculi. The *intestines* were distended with gas and glued together by the exudation. They could be separated easily.

Stomach.—Its entire anterior surface covered by a false membrane. Posterior surface free. On the anterior surface, about midway between the

cardiac and pyloric orifices, three-fourths of an inch from inferior border, a circular opening scarcely one-eighth of an inch in diameter. Marked injection of the serous membrane about the opening. On the inner surface of the stomach, an oval opening, one-fourth of an inch in diameter. A smooth, funnel-shaped canal, about one-fourth of an inch long, running obliquely between the two openings. The wall in this locality somewhat swollen. The mucous membrane in the left half is reddened by injection and small ecchymoses. The injection less marked in the right half.

No pus or granulations on the ulcer.

No other ulcers or cicatrices.

The liver and spleen normal.

Intestinal canal normal, with the exceptions above described. Appendix vermiformis normal.

The doctor referred to the researches of Baillie, Cruveilhier, Rokitansky, Grisolle, Valleix, Jaksch, and others.

He attributed the death in this case to acute peritonitis.

Dr. Shaw asked if any fluid had passed from the stomach into the peritoneal cavity.

Dr. Garrigues replied that it was impossible to recognize it. The stomach was empty.

In reply to a question from Dr. J. E. Clark, Dr. G. stated that he had observed other cases of gastric ulcer, in which there was no hæmatemesis.

CYSTIC DEGENERATION OF THE KIDNEYS.

Dr. Richardson, of the Brooklyn City Hospital, presented the kidneys from the following case:

G. B——, æt. 42, English, sailor, admitted Feb. 20th.

Had chancre when 18 years of age, followed by secondary symptoms. Dribbling of urine for ten years. One month ago fell from the rigging and struck his hand, producing a severe contused wound. The wound, through neglect, did badly, he became feverish, had tenderness of abdomen, diarrhœa, dry tongue, delirium and muscular twitchings.

On admission he was much emaciated. There was considerable mental confusion.

There was a large scrotal hernia.

The wound of the hand had become converted into a large, unhealthy ulcer.

The mental confusion gave place to a low, muttering delirium, accompanied by spasmodic contraction of the muscles, particularly of the arm. The tongue was dry and brown. Not much enlargement or tenderness of abdomen. Temperature under the tongue, 104° F. Surface of body

rather cold. Pulse, 105. The bladder was distended and the urine dribbling away.

On being withdrawn by the catheter, the urine was found to be light colored and acid, with a large quantity of albumen, and some vesical epithelium.

He died Feb. 23d, death being preceded by symptoms of pulmonary œdemas.

Autopsy: The *abdominal organs* presented no marked lesion, with the exception of the kidneys. The right kidney weighed 2¼ lbs., the left 1¾ lbs. They were complete masses of cysts.

Dr. Gray inquired as to the nature of the muscular contractions—whether they were fibrillary or in groups.

Dr. R. said the muscles of the fore-arm contracted so as to flex the hand. There were starting motions, like those of delirium tremens.

In reply to questions by several other members, Dr. R. stated that the pupils were contracted when the patient was admitted; that the inner surface of the bladder was not examined; that the urine was large in quantity, but with a sp. gr. of 1006; that the ureters near the bladder were distended, but elsewhere normal; that there was no stricture of the urethra; that the heart was slightly hypertrophied, but with no valvular lesion, and that the great vessels were not examined.

Dr. Giberson spoke on the importance of pulmonary œdema as a symptom in renal disease. He thought it more important, if anything, than uræmia. The depression, restlessness and confusion due to this condition might be mistaken for symptoms of toxæmia. The doctor related a case illustrative of his remarks.

Some discussion of this point was engaged in by the members.

EPITHELIOMA OF PENIS.

Dr. Rand, of the City Hospital, presented for Dr. Hutchison a portion of a penis, amputated by Dr. H. It was referred to the Microscopical Committee.

DIFFUSE OSTITIS.

Dr. Rand also presented the tibia from the following case.

T. S——, male, aged 38. Admitted to hospital Sept. 22d, 1877.

On the 2d of August he bruised his shin; eight days afterwards the limb became swollen and painful. The pain soon became intense and constant.

On the 17th a free incision was made down to the bone. When admitted there was some necrosis. Operated on by Dr. Giberson Dec. 22d. The lower part of the leg and foot subsequently became inflamed and painful, the fever rose to 104° F. The limb was removed on the 6th of March. It presented the appearance of bone inflammation.

VICIOUS UNION OF FRACTURE.

Dr. Rand also presented the lower portion of the tibia and fibula, showing great lateral displacement of the bones following a compound comminuted fracture. The deformity was so great that Dr. Hutchison thought it advisable to remove the limb.

Dr. Shaw presented, for Dr. A. R. Matheson, the pelvic organs of a female. (The case will be described in a subsequent report.)

NASAL POLYP.

Dr. T. R. French exhibited a section of a nasal polypus. The section was made by the curator, Dr. Bunker. It was presented to the museum.

Regular Meeting, March 28th, 1878.

The President in the chair.

The Microscopical Committee did not report.

CAST OF TRACHEA.

Dr. E. J. Harvey presented a tubular cast of the trachea or large bronchus of a child, who coughed it up during the operation of tracheotomy. The child had been sick with pseudo-membranous laryngitis for three days. The operation was performed by Dr. H. N. Read.

Dr. Hesse asked whether it was croup or diphtheria.

Dr. Harvey replied that Dr. Wallace, the attending physician, diagnosed croup.

In reply to other questions by Drs. Hesse and Merritt, Dr. H. stated that the treatment had consisted in the administration of small doses of calomel and turpeth mineral, in conjunction with the usual steaming, etc.; that the child was cyanotic and almost dead when the operation was performed. The cyanosis disappeared at once. The child was 5 years of age.

STENOSIS OF MITRAL ORIFICE.

Dr. Westbrook presented the heart and portions of the lung, liver and spleen from the following case. The autopsy was made at St. Peter's Hospital through the kindness of Drs. Lowell and Segur.

Dr. Segur furnished the history.

G. L——, æt. 19, tobacco stripper, admitted April 23d, 1877.

Parents both dead. Both had had rheumatism. The father died of "dropsy," the mother of heart disease.

Has been troubled with palpitation and dyspnœa on slight exertion for the last 7 years. Has had numerous attacks of rheumatism. The present attack began 5 days ago, after exposure to wet weather.

Physical examination by Dr. Segur.

Apex beat two inches below the nipple and three inches to the left of the sternum.

Systolic murmur at the base and apex.

Diastolic murmur at the base. None of the murmurs could be heard posteriorly.

The treatment consisted of a poultice over the præcordia, and sodium salicylate and Dover's powder internally.

Discharged April 30th, *relieved.*

May 11th re-admitted, suffering from another attack of rheumatism. The same treatment as before. Discharged May 18th.

February 18th, 1878, re-admitted. Has suffered very severely from dyspnœa for the last three months, and for two months has been confined to bed. General anasarca.

The *urine* contains half its bulk of albumen.

Cough and copious expectoration.

The expectoration finally became bloody, and the patient died on the 22d of March.

Autopsy March 23d, 22 hours after death. There was great *œdema* of the entire subcutaneous connective tissue.

The *head* was not examined.

Thorax.—The *pericardial sac* was very large, extending from one inch to the right of the sternum to the mammillary line, and as low as the seventh rib. It contained a few ounces of serum.

The *heart* weighed 19 oz. The right auricle and ventricle were greatly dilated and their walls somewhat thickened.

The *tricuspid valve* was thickened, and its orifice somewhat contracted, only admitting the tips of three fingers.

The pulmonic valve was normal.

The *left auricle* was much hypertrophied and dilated.

The *left ventricle* was only moderately dilated and hypertrophied.

The *mitral valve* was much thickened, and stiffened by calcareous deposit. Its orifice only admitted the tip of the index finger, and it was incompetent.

The *aortic valve-flaps* were thickened and slightly misshapen, with no calcareous deposit.

The orifice was very slightly contracted.

The valves were not perfectly competent.

The interior of the ventricles showed signs of ancient endo-carditis.

The *cavities* were all distended with soft black clots.

The *pulmonary artery* was normal.

The aorta was contracted to about two-thirds of its normal size, and there was a little fatty degeneration of the intima, in its thoracic portion. The abdominal aorta was still further contracted, and so were its branches.

The *pleural cavities* were each about one-third full of serosity.

The *lungs* were congested and contained parenchymatous hæmorrhages. They were not œdematous.

Peritoneal cavity contained a large amount of clear fluid. *Abdominal viscera* all congested.

Liver, 4 lb., 10 oz., hard and irregular on its surface (nutmeg liver). Displaced downward.

Spleen weighed about 7 oz. Very hard.

Kidneys weighed about 7 oz. each, and showed no abnormal appearance except hyperæmia.

The remainder of the genito-urinary apparatus normal, with the exception of œdema of the penis and scrotum.

Dr. W. wished to get the opinion of the members on the question whether or not the cardiac lesions in this case were congenital.

He thought that the tricuspid disease and diminutive size of the aorta, coupled with the fact that both parents were rheumatic, might support the view that this was a congenital lesion.

Dr. Shaw asked if the mesenteric and other branches of the aorta were smaller than normal.

Dr. Westbrook said that, so far as examined, they were. He had not looked them all over.

Dr. Shaw thought that the evidence in favor of its being a congenital trouble was strong.

Dr. Segur made some interesting remarks on the pathology of endocarditis and its relation to valvular affections.

FREE BODY IN THE TUNICA VAGINALIS.

Dr. Rockwell presented a small calcareous mass, obtained from a cadaver which he was using for anatomical purposes.

It was free in the tunica vaginalis, and when fresh seemed more like a small sesamoid bone than like a concretion.

It was lying against the epididymis of the left testicle.

"Its low specific gravity is rather remarkable; for though about three lines in width and nearly two in thickness, it weighs, when dry, exactly *one grain.*"

The question of its formation is not treated of by Van Buren, who says its source is found in the growth of small excrescences, usually found upon the tunica vaginalis testis, though liable to appear upon other points in the scrotal cavity. These little tumors increase by successive

concentric additions of connective tissue, and finally, from pressure and position, become pediculated.

Calcareous degeneration of the central layers occurs, followed by atrophy of the superficial ones, and rupture of the pedicle.

They now become "free bodies in the tunica vaginalis." "Holmes mentions a specimen as existing in the museum of Mr. Heaviside, entered as 'a *stone* found in the cellular substance of the spermatic cord of a man who died of strangulated hernia.'

"Sizars speaks of 'ossification of the tunica vaginalis' as being sometimes seen, by which he means, perhaps, earlier stages of the process described by Van Buren."

IMPERFORATE RECTUM.

Dr. Westbrook presented the lower portion of the rectum from a child on whose body he had made an autopsy for Drs. Burge and Childs. The undeveloped portion of the canal was about one-half inch in length, and situated one-fourth of an inch above the anal opening.

The anus was well formed.

The colon had ruptured at its hepatic flexure, and there was extensive extravasation of meconium and fecal matter.

Slight peritonitis.

Neither Dr. Burge or Dr. Childs were present, so that no complete history was obtained.

The child lived but five days. No cause for the early rupture could be discovered.

The Secretary requests members who present specimens to present therewith a *written* account of the case and pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides. Address, Curator of Pathological Section, care of B. F. Westbrook, Secretary, No. 279 Clinton Street, Brooklyn.

BENJ. F. WESTBROOK,
Secretary.

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The May meeting will be held on the 16th, at which time the following Papers will be presented:

A Case of Extra-uterine Fœtation. By Dr. C. H. Giberson.

Dr. G. M. Garland, Assistant in Physiology, Medical Department Harvard University, will read a paper on Pneumono-Dynamics, which will embrace the following topics:

1. Description and History of the Curved Line of Flatness, as a Symptom of Pleuritic Effusions.
2. Interpretation of the Curved Line of Flatness, with Experimental Demonstrations.
3. Diagnostic Value of the Curved Line of Flatness.
4. Demonstration of the Physical Principles which obtain in the Chest between the Lungs and other Viscera of that Cavity.
5. A Review of the Theories which have hitherto prevailed regarding the Mutual Relations between a Lung and a Pleuritic Effusion.

Sanitary Work of the Brooklyn Board of Health. By Dr. J. H. Raymond.

——Calcutta Flaxseed, as a substitute for cod-liver oil in skin diseases originating in, or attended by marasmus, is commended by Dr. Sherwell, of this city. The unground seed is preferable, to be chewed from time to time; patients to carry an ounce or more in the pocket. In this way some patients will use several ounces a day, greatly to the improvement of their nutrition. This seed is not unpleasant, and excites no eructations or intestinal disturbance.—*Med. Record*, April 13th; *Archives Dermatology*, April.

——Publications Received.—The Multum in Parvo Dose-Book. Compiled by C. Henri Leonard, M. D., of Detroit. Contains the doses of nearly every known drug, officinal and unofficinal; many preparations; incompatibles, antidotes, etc., etc. 100 pp. Price 75 cents, in cloth.

——The First Annual Transactions of the Louisiana Medical Association. The best known names of that State appear as participants in this report. Dr. J. C. Egan was chosen President. Dr. Dillard, formerly of this Society, is one of the organizing members. . . The existence of leprosy in Louisiana is referred to incidentally.

——The N. J. State Board of Health.—The initial Report of this Board has been received. It is chiefly the handiwork of Dr. E. M. Hunt, Secretary, and other physicians of that State. One thousand dollars is set apart to provide for the sanitary interests of the State; so that the Commissioners may be said to work for nothing and Board themselves.

——The Journal of Physiology, Vol. I, No. 1, has been sent us by Dr. H. P. Bowditch, of Boston, one of the American editors; Prof. H. N. Martin, of the Johns Hopkins University, being the second. These are the only associate editors outside of the United Kingdom. This number contains 108 pages, plus several plates, and a copious bibliography of the most recent physiological literature. To this department Prof. Martin is the American contributor; let all workers in physiology take notice. We wish this excellent work a successful career.

——Elephantiasis.—Dr. Thos. G. Morton, in Nov. last, exsected one and a half inches of the right sciatic nerve of a negro, whose femoral had been tied in 1873, for Elephantiasis Arabum. No unpleasant symptoms. Diminution in size of leg amounted, Jan. 3, to $8\frac{1}{2}$ inches. Sensibility of skin slightly impaired. Patches of skin one-sixteenth inch thick peel off, leaving a clean, soft, pliable skin beneath.—*Phila. Med. Times*, Jan. 19.

——Hydrophobia.—A fatal case occurred in this city, March 16. A boy, aged eleven, was the subject. He was bitten six months ago by a dog known to be rabid. Chloroform and chloral were the chief medication.

——A Fatal Case of Hydrophobia, consequent upon the bite of a favorite cat, occurred in this city April 12th. The bite was received about one month previously. The age of the patient, a woman, was sixty-seven. The remedies employed were cannabis and morphia. The animal is not stated to have been rabid. . . The *Lancet*, March 30th, commends the use of curara in hydrophobia, with the caution that the exhibiter of it shall stand ready and prepared to establish artificial respiration, if that function becomes paralyzed. There are now three cases of reported cures from the use of curara; one cure after the use of the hot-air bath. Jaborandi has been recommended recently.

——Burns.—The treatment by bicarbonate of soda is progressing favorably. Many successes are reported, and an English practitioner claims to have used it "for years." Now all doubts should be dismissed. See also a model "Note" by Dr. Pring, of the Army, in *Med. Times*, March 16; sixteen short lines.

——Dr. L. Preston Ashmead, formerly a member of this Society, died March 12, at Gainesville, Fla., of phthisis.

——Thefts from Physicians' Offices have been so frequent of late, that the police of this city have gone from office to office giving a warning, to the effect that no strange person should be allowed to remain in the house unobserved, on any pretext—not even if declaring himself to be a physician. Scant courtesy to all strange faces is now the order of the day. . . A sneak-thief, or "jumper," calling himself "Doctor" Williams, is now under arrest in consequence of a raid among the Clinton Street physicians.

——Our Court-House.—In the March issue of this journal we referred to the unsanitary features of the Court-House of this county. It now appears, from an article in the *Manufacturer and Builder* for April, that the systems of ventilating and heating in this building are better adapted to supply sewer-air than fresh air; especially by reason of a leaking and broken brick drain, or sewer, passing beneath the main passage-way, and in close relation with the cellar air-chambers; contaminated air is thus ventilated into the court-rooms.

——Quackery in Scotland.—The *Lancet* for March 23d recounts the prosecution and punishment of James Ingram, *alias* Robert Henry Ward, of Dundee, for illegal practice. Ingram claimed to be a member of the "Reformed Medical Society of Brooklyn, U. S." This is the first

intimation we have received of any organization of this character "in our midst," although, if we mistake not, there was at one time a branch office of the notorious University of Philadelphia in this town, for the sale and distribution of fraudulent diplomas. The accused declared himself incapable of abandoning his chosen career of usefulness "so long as orphans and lone widows wept, or the hot tears scorched a bereaved father's cheek," etc. . . Information concerning this Reformed Society is hereby invited.

——Absorbent Cotton in Aural Diseases.—Dr. Samuel Sexton, of New York, has found the newly prepared water-absorbing cotton of great service in treating purulent inflammation of the middle ear and external meatus. Powders have long been used, but they were never free from objection, being difficult to both properly apply and remove. But with this cotton wool the application of medicated solutions becomes manageable ; it may be applied to a small or extensive surface, and may be left *in situ* a longer or shorter time, according to the mildness or strength of the medicament.—*Med. Record,* March 2d. In this connection we call attention to an intensely interesting recital by Dr. J. P. Cassells, of Glasgow, *Edinburgh Med. Jl.,* April, of the production of acute aural disease in his own family by sewer-gas, this disease being akin to scarlatina. (There is no doubt in the minds of sanitarians, we believe, that scarlatinoid attacks are as certainly dependent, in a proportion of cases, upon sewer-poison, as is diphtheria.) This acute inflammation of the middle ear, which causes so many cases of irremediable deafness after scarlatina, is heroically treated by Dr. Cassells—namely, by the incision of the membrana tympani, and the evacuation of the distending secretions. Dr. C. believes that the hearing may be saved for every one of these cases, if they are seen early and the membrane incised, and he did not hesitate to so treat his own children. The wound heals in due time, and hearing is fully preserved.

——Dialyzed Iron has been used hypodermically, without dilution, by Dr. Da Costa, in anæmia ; no inflammation at point of injection. Progressive improvement was observed in a typical case of chlorosis.

[*Med. Times,* March 2d.

——Arnica for Boils.—M. Planat claims to have observed remarkable effects from the external use of the extract of fresh arnica flowers, one part ; honey, two parts. If too fluid, lycopodium is added. Apply this to the boil and cover with oil-silk. This promptly aborts all furuncles, except those occurring with diabetes. The tincture of arnica, given in doses of 25 drops every two hours, gives equally good results.—*Hospital Gaz.,* March 1st, from *Lyon Médicale.*

——Pilocarpin (Muriatic) the Alkaloid of Jaborandi.—Prof. Marmé, Prof. Pharmacology, Göttingen, gives the following results and conclusions:

1. Pilocarpin causes sweating on the paws of cats, on the one hand, through peripheral irritation of the nerve fibres controlling sweat (pointed out by Luchsinger, Ostronmow and Nawrocki), and on the other hand through irritation of the sweat centre.

2. Pilocarpin does not excite the sweat nerve fibres in their course between centre and periphery.

3. The secretion of the tears is caused in the same way as the sweat.

4. The sympathetic controls the central stimulation of the tear-centre when the brain supply of blood is cut off.

5. Pilocarpin also causes increased secretion of wax in the ears.

6. It can also increase and make more fluid the secretion of the bronchial mucous membrane.

7. It increases the secretion of saliva, not only through peripheral irritation of the secretory nerves, but also through excitation of the secretory *saliva-centre* in the medulla oblongata.

8. Also here (v. 4) the sympathetic controls the central excitation of the salivary secretion when the blood does not reach the brain.

9. Pilocarpin increases the milk-secretion, according to Röhrig, very uncertainly and slightly, if at all, only through increase of the blood pressure.

10. When pilocarpin is used in small doses, it certainly increases the urinary secretion and excretion; but always more limited, in less degree, than most of the other secretions. Used in larger doses it does not, indeed, arrest the secretion, but makes more difficult and somewhat retards the excretion.

11. Pilocarpin excites the peristaltic action by direct irritation of the intestinal ganglia, and increases the secretion of the intestinal glands, if it is used in large doses. In consequence it can produce not only simple, but also watery evacuations.

12. Atropine, in proper doses, arrests all the already named secretions, and also that of the Schneiderian membrane.

13. Large doses of pilocarpin cannot overcome active doses of atropine.

14. Salicylic acid, injected subcutaneously or taken internally, appears not only in the urine, but also in the secretions that are increased by pilocarpin—sweat, tears, saliva, milk, and bronchial and intestinal mucus.

15. Derivative products of the salicylic acid, taken internally, appear in the milk.

16. The elimination of soda-sulphate of indigo ("Indigo schwefel sauren Natrium"), which is injected into the blood, takes place chiefly, as has been long since known, especially by Heidenhain's experiments, through the urine, also through the salivary, bronchial and intestinal secretions, not through the sweat or tears.

17. The sweat-centre for the paws of the cat lies, as Nawrocki first announced, in the medulla oblongata. A special centre for the hind feet in the lower dorsal and upper lumbar region, according to Marmé's experiments, does not exist.

18. The sweat-centre probably lies deeper in the medulla oblongata than the respiratory centre. After ligating the four large arteries of the neck, it is still active when the respiratory centre is already incapable of functioning.

19. In opposition to pilocarpin, camphor excites the secretion of the sweat through central, not peripheral irritation.

20. Probably all the diaphoretics, whose active ingredient is an ethereal oil, are similar in their *modus operandi* to camphor.

21. The sweat of the paws of cats, whether spontaneous or reflex, or produced by camphor or pilocarpin, is always alkaline in its reaction.

22. Pilocarpin may, in certain cases of traumatic hemi- and paraplegia, be used as a diagnostic expedient, in order to control the nutritive condition and functional activity of the secretory, and, perhaps, of the motor nerves.

23. The secretory fibres of a mixed nerve seem, after a severe injury thereof, to degenerate as quickly as the motor fibres.

24. Our experiments explain the favorable influence of pilocarpin in cases of one or double-sided paralysis, as announced by Ringer and Bury (centralblatt f. d. med. W., 1877, No. 31, S. 576); also its use in certain bronchial and laryngeal affections, as described by Robin, Weber l. c. and others. (Robin-Virchow u. Hirsch Jahresb. f. 1874, 1. s. 509, Weber-Centralblatt f. d. m. W., 1876, No. 40, found the bronchial secretion, in diseases of the air-passages, become more fluid, and the diseases, bronchitis and croup, progress more favorably.)

25. If the complexity of its action presents no contra-indication, and if small doses suffice, pilocarpin is, in many and very different diseases, a valuable remedy.

26. As a precious aid to experimental work, it facilitates not only the investigation of physiological and pharmacological problems, but also the demonstration of various physiological actions.

27. In cats, in exceptional cases, a somewhat large branch arises from the aorta between the left subclavian and innominate arteries, which enters an intervertebral foramen in the cervical vertebral column. When

this exists, ligation of the four large arteries of the neck does not cut off the blood supply of the brain.

28. In case of need one may demonstrate the absence of anomalous blood-supply of the brain in cats, by means of the injection of the soda sulph. of indigo, as recommended by Sig. Meyer.

29. In spite of this, one can demonstrate the value of the method of investigation recommended by Sig. Meyer; by means of the injection of the soda sulphate of indigo, the absence of anomalies of the vessel can be demonstrated.

30. It is as little possible in goats as in dogs, to cut off the blood-supply of the brain by tying the four large arteries of the neck.

In conclusion, he remarks that it was inevitable that in using atropine so often he should more carefully study its influence on the pupil. He sought an answer to the still unanswered question, Whether atropine acts only through paralysis of the third nerve (branch), or whether it, at the same time, acts by irritation of the sympathetic? He has determined not only this action as to atropine, but also as to a number of other articles. These results he will publish separately, and will then furnish proof that the sympathetic is not concerned in atropine-mydriasis.

——The N. Y. Medical Register.—The annual circular of this publication has been received. A stamped envelope accompanies it, to ensure the attention of physicians. The circular business is so much overdone nowadays, that some that are well worthy of attention—as is eminently the case with this one—are neglected. . . *The Register* is promised for June 15th ; if paid for before June 1st the price is $2.00 ; after that date, $2.50. If any one fails to receive this circular, he should address the editor, No. 130 East 30th Street, N. Y.

——Double Injustice.—A veteran pharmacist says that he has always found that those people who make a practice of shirking the payment of their doctor's bills are the very class who most disparage their physician's services. By talking against the doctor, they think they furnish themselves with an excuse for their neglect to meet their obligations. They thus both steal his purse and filch his good name.

The Phonograph appears to stagger even the scientific mind, which ought to be startled at nothing. The *Scientific American* admits a feeling of astonishment and hesitant belief every time he hears it anew:

"If we lived in 1678," he says, "instead of 1878, the life of Mr. Edison would not be worth a moment's purchase; in fact, he would long ago have been resolved into carbonic acid, hydrogen and his other constituent gases, in the flames set apart for the earthly familiars of his Satanic Majesty." Its introduction before the French Academy of Sciences was the

occasion of a scene of excitement, mirth and commotion altogether unusual in that sedate body.

——NEW REMEDY FOR DROPSY.—Dr. H. K. Pusey writes to the *Louisville Medical News*, April 6th, that the Asclepias Syriaca, or "milk weed," has been used by him for some time in dropsy following scarlatina, as well as that caused by renal and cardiac affections. Its action is diuretic and diaphoretic. Dr. P. relates cases of extreme dropsical distension, which were relieved by it in a marked manner; some were completely restored to health. With the exception of the *U. S. Dispensatory*, none of the text-books give any account of the Asclepias.

——PILOCARPINE, the active principle of jaborandi, may now be procured in this country. Its action is reported as more uniform and reliable than that of the leaf. It may be administered hypodermically. Its use in scarlatinal dropsy has been reported quite favorably. It can be purchased for fifty cents a grain.

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The A. M. A. meets at Buffalo, June 4th, 1878.

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PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, May 21, 1878.

EXTRA-UTERINE PREGNANCY—(CASE.)

BY C. H. GIBERSON, M.D.

History.—Mrs. B., aged 39, born in U. S., healthy. Menstruation began at 17, and continued regular every twenty-eight days up to time of marriage, on March 1st, 1870.

July 28th, 1870, she had a miscarriage in the second month. For a year following had both menorrhagia and dysmenorrhea. Then a gradual decline to scanty menstruation, but still appearing every twenty eight days. Her general health suffered somewhat; she had ovarian pain and dragging sensations in pelvis, especially at time of period. Tonic treatment, including aloes and strychnia, increased the flow so that in April, 1873, the remedy was discontinued on account of its excess.

April 15th, 1873, made first vaginal examination. Found slight uterine leucorrhea. Uterus 3 inches deep; direction of its canal normal; tender fundus. Also tender on pressure over hypogastric and iliac regions. Diagnosis: ch. cervicitis.

Topical treatment, with rest, relieved these symptoms.

June 16th, 1874, she again came under treatment, but now for sterility. General health excellent, but menses scanty. Says that for months past she has had a leucorrheal discharge, occurring exactly eight days after the cessation of each period, as if supplementary to the scanty flow.

Uterus 2½ inches deep, slightly anteflexed, with os externum so contracted as scarcely to admit the smallest uterine probe. Begins to have decided dysmenorrhea, with more profuse and constant leucorrhea. The os was fully dilated on several occasions, but recontraction promptly occurred.

July 18th, 1874, incised it, and followed with full dilation every second day until healed.

November 4th, 1874.—Since operation both dysmenorrhea and leucorrhea have been absent. External os well open, cervix healthy. On one occasion since she went a few days over her regular time of menstruation, and supposed conception had occurred, but was probably mistaken.

Menses still scanty; complains of floating specks before her eyes, and burning sensations in eye-balls and left half of face. The left cheek is often flushed, and sensibly hotter to the touch than the opposite. Again resorted to iron, with strychnine and aloes, which soon increased the menstrual flow. Omitting treatment, the function soon diminished. The fault was believed to be ovarian, and due either to chronic inflammation or atrophy. The galvanic stem pessary was tried without avail. Subsequently the induced, and later the constant current, battery, were used without benefit.

The constant current, on the contrary, produced severe uterine tenesmus. It increased the congestion and weight of the organ, which became sensibly larger and more anteflexed.

January 12th, 1875.—Last two periods accompanied with a very slight flow. To remedy the anteflexion a Chambers' stem pessary was introduced. Menstruation followed at the proper time and continued naturally for a week. During this time she wore the stem, felt well, and went about as usual. About the end of the period it came out. The following epoch, in February, 1875, without the stem in position, was scanty.

March 13th, 1875, it was re-introduced and worn constantly for three months, producing normal menstruation, with a disappearance of the heat in eye-balls and left side of face. Still had the specks before her eyes, which she often described as assuming a form like the cob-web. Her anxiety for children was followed by a removal of the stem pessary on May 15th, 1875.

The very next menstruation was as scanty as ever, lasting about 24 hours, with a return of headache and burning eye-balls. Each succeeding period was accompanied by scarcely any sanguineous discharge. This continued without change until November 27th, 1875, when the pessary was again replaced. The next menstruation was normal. The instru-

ment was worn continuously for eight months, with comfort, and return of natural periods.

July, 1876, it was again removed to permit conception. Her next menstruation was scanty. Each succeeding one became more so, until December, 1877, when it amounted to a few drops of blood only. Yet her general health continued good, with complete absence of the eye and face symptoms before described. Had occasional severe headache, with loss of flesh and color, but was in no sense an invalid.

During the first week of December, 1877, she had her usual scanty flow, lasting about 24 hours. Later in the month she did not feel quite well, but was out-of-doors and about as before.

January 2d, 1878, instead of menses there appeared a slight brownish discharge. This continued without interruption throughout the month. She lost appetite, mammæ were swollen and tender, and had pelvic uneasiness. Pregnancy was suspected; yet so many years had elapsed, and the generative functions seemed so impaired, that there was much doubt of it. As no sanguineous flow appeared, she believed herself approaching the climacteric.

January 25th, 1878, whilst in bed early in the morning, she was suddenly seized with severe colicky pain, which could not be accurately located, except as being in the lower part of abdomen. It was a sickening pain, unlike uterine colic, and appeared not to be due to disturbance of the uterus. She had vomited, and my arrival soon afterwards found her pale, with cold surface, and general symptoms of shock. Morphine subcutaneously soon relieved her. The following day she had no pain, and on the second seemed in her usual health.

February 3d, 1878 The time for her second menstruation since last regular period in December passed without any flow of blood, but the brownish discharge had not ceased from January 2d, the colicky attack just described not having altered or interrupted it.

A second seizure, like that of January 25th, occurred as suddenly February 4th, late in the evening after retiring, and was attributed to some indigestible food taken for supper. The pain and nausea were promptly relieved by morphia hypodermically, but she did not recover from the prostration for three days.

On February 9th she had a third slighter paroxysm, for which she took "cholera mixture," and was soon comfortable. Medical aid was not summoned. She also took a mercurial and saline purgative with benefit.

The brown discharge still continued, and so annoyed her that she desired an examination, with a view to remedying it. She was also anxious to know certainly regarding the possibility of an existing pregnancy.

She was advised to wait a few days longer, until after the time for next menstrual period. The "signs" were not prominent, and the recollection that she had aborted seven years before from very slight causes still further influenced me to delay a vaginal examination.

February 15th, 1878, a fourth paroxysm occurred in bed early in the morning. I saw her promptly, and quickly controlled the pain, as before.

During the day (Friday) a sanguineous flow appeared, instead of the brown discharge, which had continued for six weeks. She was depressed by its appearance, believing her hope of pregnancy had been a vain one.

On Saturday, February 16th, she was much better.

On Sunday, February 17th, excepting some lassitude, she seemed quite well again. The flow had diminished and she was walking about her room. Took a mild saline aperient.

Between five and six P. M., being alone in her room, she went to the adjoining water-closet, and whilst seated there was instantly seized with intense pain in her lower abdomen, with vomiting and threatened syncope. With difficulty she crawled back to her couch, and was soon after found by her maid in a kneeling posture in great agony. Within half an hour I found her pale, cold, almost pulseless, semi-conscious, barely able to beg for relief from her sickening anguish. She was placed in bed and given stimulants and morphine freely. Soon the pain abated and reaction was established. P., 96. Respiration sighing, no chill. The morphine was continued during the night hypodermically, and in sufficient quantity to procure relief from pain. Abdomen sensitive to firm pressure.

Feb. 18th, A. M.—Twelve hours after attack. P., 104 and thready; T., 100°. No increased heat of surface. Twenty-four hours from attack the abdomen becoming tympanitic, with tenderness across its lower part. Morphine required every few hours, to control pain. Stimulants and nourishment retained.

Feb. 19th, A. M. (Tuesday).—Thirty-six hours from beginning of attack. More tympanitic, with slight general abdominal tenderness. P., 108; respiration kept about fifteen per minute by morphine; T., 100°. Entirely conscious; tongue clean, pale and moist; lips white; face pallid; urine normal in quantity and character.

P. M.—Forty-eight hours after the attack. The abdomen greatly distended and resonant. P., 115 and small; T., 100°. Per vaginam we found the uterus enlarged, but slightly movable, apparently in normal position, and thought its walls at junction of body with cervix somewhat bulging, especially on anterior aspects. External os open; lips smooth, soft, and thicker than normal. Slight oozing of bloody mucus. Vaginal roof

more unyielding than natural, but could detect no well-defined tumor. No satisfactory bi-manual examination, on account of tympanitis and hypogastric tenderness. Though satisfied there was considerable enlargement of the uterus, it did not convey the impression of one containing a fœtus of nearly three months. Firm palpation and percussion revealed an increased dullness across the very lowest portion of the abdomen.

Immediately after this examination I told the husband my fears of an extra-uterine pregnancy, and requested a consultation the following morning. Under morphine she passed a tolerably good night.

Feb. 20th, A. M.—P., 116; T., 100°; respiration thoracic; kidneys active; increasing tympanites. The original pain she now describes as a dull aching in the back and across the abdomen, constant and severe, unless relieved by the subcutaneous injection of morphine. In addition to this, she describes a paroxysmal uterine pain, like that of labor or dysmenorrhea (obstructive), and not much influenced by the opium. Also has slight bloody discharge from the uterus, and which has continued since the 15th inst. Her pulse remained at about 116, and temperature did not rise above 100°.25′. Apart from the question of extra-uterine pregnancy, and notwithstanding the low temperature, I believed a sub-acute form of peritonitis to be present, basing my opinion mainly on the character of the pulse, the greatly distended abdomen, with tenderness, and the marked nervous depression, mainly of the sympathetic system, from which she did not satisfactorily rally. The uterine sanguineous discharge had not ceased with the advent of her present symptoms, and this seemed to preclude the idea of inflammation occurring in the uterus or appendages. Various theories as to the cause of the supposed inflammation suggested themselves, but, excepting the one of extra-uterine fœtation, each seemed fallacious.

At 5 P. M. Prof. Thomas, and Dr. Mourraille, of New York, saw the case. The abdomen was greatly distended. P., 116; T., 100°.25′; respiration shallow and quite thoracic; intellect perfectly clear. Prof. T. made a vaginal examination, and found a pulpy mass slightly protruding from the os externum, which was undilated and rigid. The cervix uteri was thought to be shortened, as happens during the first stage of labor. A uniform bulging of the circumference of the uterus was thought to be present, and believed to be due to dilatation of the inner os and canal of cervix. I again examined (being twenty hours since my previous one), felt the protruding mass, and thought the form of the lower segment of the uterus had changed. Owing to the extreme tympanites, very little could be learned by external manipulation of the abdomen. The tenderness on pressure likewise prevented thorough palpation and percussion.

The conclusions arrived at were as follows:

Uterine pregnancy, with death and probably beginning decomposition of the ovum, producing septicæmia. Peritonitis not present, but imminent. An abortion in progress. Extra-uterine fœtation not thought to be a complication.

Treatment.—Stimulants and opium. Dilate the cervix, empty and wash out the uterus as promptly as possible. Unfavorable prognosis.

In accordance with above suggestion, I proceeded to soften the cervix with hot douche, and soon extracted the presenting mass, which proved to be fresh decidual membrane.

Almost immediately a second similar portion presented, and was readily expelled. The cervical canal was then dilated so that my index finger could be passed to the cavity of the body, which was found now to be quite empty. There was no actual shortening of the canal of the cervix. There was a very slight increase of the flow of blood.

The two portions of decidual membrane above mentioned, when spread out, covered an area of about three and a half square inches. One surface was smooth and glistening, the opposite rough with villi. It was odorless and without sign of decomposition.

Following these expulsive efforts was alarming prostration, which required most active stimulation. She was conscious, and greatly depressed by reason of her supposed miscarriage.

February 21, 3 A. M.—The accumulated gas so interfered with respiration, that an aspirating needle was passed through the abdominal wall a little to the right of the median line, about one and a half inches below the umbilicus. The gas escaped freely and with much relief. It was inodorous. Just before withdrawing the needle, there was slight sputtering of a dark grumous fluid, resembling blood.

Dr. Conkling, of this city, now saw the case with me. In his opinion we had peritonitis to deal with. P., 140; T., 101°; respiration short and quick.

A few hours after the puncture of abdomen the tympanites was as marked as ever, and was again relieved in the same way. On this occasion some drops of black blood certainly escaped through the hollow needle. Dr. Lowell was present at this time, and after careful study of the case diagnosed peritonitis.

11 A. M.—Prof. Thomas again in consultation. After examining the expelled membrane, he concluded the trouble was not intra-uterine. Further examination of the patient led him to believe peritonitis present. He suggested hæmatocele as a possible solution of the origin. She was conscious. P., 130; T., 101. Prognosis exceedingly unfavorable.

During the day and evening she gradually failed in strength, but remained conscious until 10 P. M.

Death from exhaustion and shock just after 12 midnight (morning of February 22d), four days and seven hours from the time of attack.

Autopsy.—Sixty-four hours after death, Drs. Conkling and Mourraille assisting.

Abdomen.—Distended. Gas chiefly in the colon. Stomach and small intestines moderately distended. No sign of peritonitis. First tied and then removed whole intestine, so as to have full view of the abdominal cavity. Two quarts of dark fluid blood lay in its back part, mainly on left side. The hypogastric and iliac regions were filled with dark clot, the entire quantity of effused blood making quite five pints.

Regarding the pelvic organs *in situ*, after removal of the intestines, we found the bladder, uterus and appendages on right side in normal position. But lying above and against the fundus uteri, a little to the right of the median line (See Fig. 1, *a*, but, by mistake of engraver, the cuts have been reversed), was an oval tumor four inches long by two and a half broad, partially imbedded in blood-clot. It was dark, rather firm, of regular shape and smooth surface, excepting outer and under portions. Further examination showed it continuous with the left Fallopian tube, which was six and a half inches long, or double that on opposite side. It had no other connection. Probably its original seat was to the left of the uterus, and is supposed to have been displaced during the fatal illness. At the outer part of its circumference was a ragged, slit-like opening, large enough to admit an ordinary lead pencil, the point of rupture from which the fatal hemorrhage doubtless came.

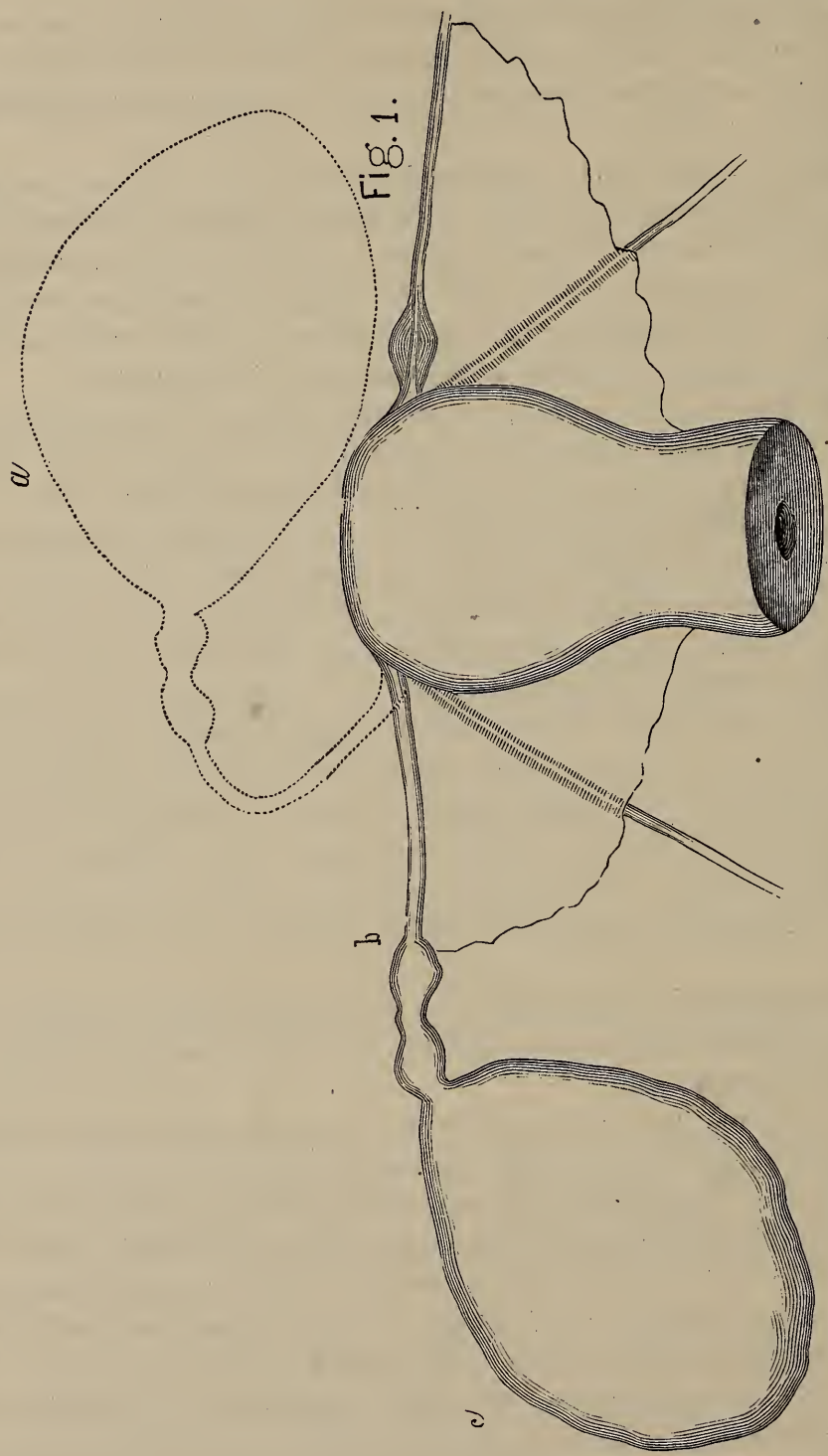
Cutting through its wall revealed an amniotic sac, filled with clear fluid, in which floated a male fœtus near the end of third month, and without sign of decomposition.

The placenta, thin and translucent, but well defined, was adherent to a firm coagulum, evidently not entirely of recent origin, as some portions of it had lighter color and more fibrinous texture than fresh clot. The placental portion of cord was softened and of dark, venous hue.

The cyst wall was from half to three-quarters of an inch thick, mainly due to layers of coagulum of varying color and consistence, and believed to indicate that extravasations had occurred at different times. Some parts, evidently quite recent, were easily washed away by a gentle stream of water; others were more compact and apparently becoming organized. That the chief bulk and thickness of the cyst wall was blood-clot of varying ages could not admit of doubt.

The surface facing uterus was smooth, well organized, and evidently a prolongation of the fimbriated extremity of the Fallopian tube.

Fig. 1.



Anterior View.—*a*. Position of cyst as found. *b*. Left Fallopian tube (elongated). *c*. Cyst.

The more remote surfaces had less regular appearance, and were besmeared with clot, but also contained imperfectly organized tissue. Microscopic sections from these opposite sides are exhibited.

Fallopian tubes.—The right of normal length, with proper relations. It was patent throughout, of usual calibre, and filled with a reddish clot. A hard fibrous nodule, the size of a small bean, surrounded it, just outside the uterine wall. (Shown in cut, but reversed.)

The left was attached to uterus, as usual; was patent and of normal calibre for three and a half inches, also filled with reddish, jelly-like material. It then expanded abruptly, and sufficiently to admit a finger, with thin wall and sacculated appearance. At six and a half inches it terminated in the tumor, or, more properly speaking, its hypertrophied, fimbriated extremity became a part of the cyst wall.

Ovaries.—Each was made up of two parts, differing in appearance and position. One part was circular, flattened, of regular shape, smooth surface, completely invested by membrane, and lying well up against the under surface of the Fallopian tube, between the layers of the broad ligament. Beneath, and farther removed from the uterus, on each side, was an ovoid body nearly as large as a small almond, the greater portion of its surface irregular, and apparently without investment. It was regarded as ovarian, and the microscope confirmed it. This last body was adherent to, and continuous with, the first; and though it contains the true ovule, has undergone a considerable degree of atrophy. On the right side this change was especially marked, leaving a portion of healthy ovary not larger than a pea.

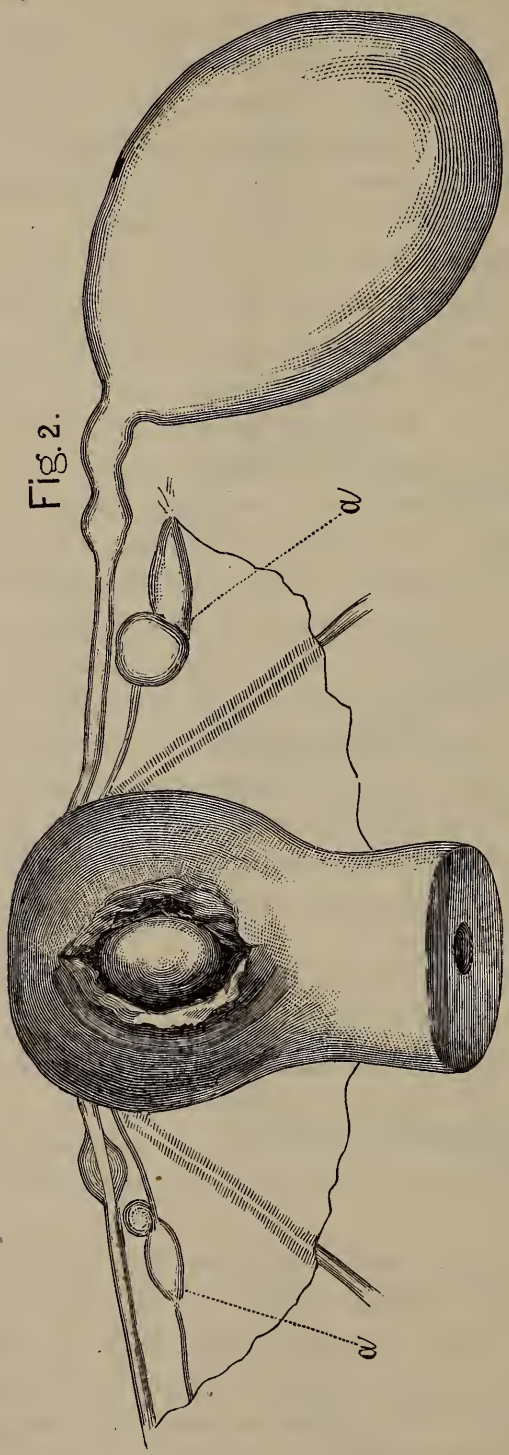
The corresponding circular and flattened part on the left side (Fig. 2, *a*) was about the size of a hazel-nut, and contained the true corpus luteum well marked. The irregular, atrophied portion bore the same relation to it as was described in the right side.

The whole arrangement presented an abnormal appearance. Sections from each portion on each side are exhibited under the microscope.

Uterus.—Firmly contracted, exsanguine, four inches long by two broad; cervix of full length, vaginal portion smooth and white. External os and cervical canal open, so that finger could be easily passed to the cavity of the body. In the posterior wall of the body was a prominent interstitial fibroid the size of a walnut, completely encapsuled, but easily enucleated. It is shown in Fig. 2, with the external layer of the uterine muscular fibre cut through.

Laying the uterus open, it was found to be empty. Its interior was white, and as smooth as normal.

Fig. 2.



Posterior View.—*a*. Right ovary. *a'*. Left ovary; circular portion contained the corpus luteum.

Bladder.—Empty, but not well contracted.

Intestines.—Contained no solid matter, and of pearly whiteness, except at points in contact with the effused blood.

I will now refer to a few prominent symptoms in the foregoing history which pointed strongly to extra-uterine pregnancy.

First. The paroxysmal pain, beginning near the end of the second month, of supposed gestation, referred to the lower abdomen, attended with nausea and vomiting, cold, pale surface—in short, by symptoms of shock. Then passing over for a few days to be followed by a similar attack. Thus these paroxysms were repeated, with greater or less severity, four times, finally ending in the fatal rupture near the end of the third month. Rightly interpreted, a second, certainly a third attack, should excite the suspicion of misplaced pregnancy.

This recurring pain has generally been supposed to arise from spasmodic contractions of the extra-uterine cyst, excited by the increasing size of the ovum in a sac not best fitted for its reception. Careful study of the cyst wall in this case led to the conclusion that each paroxysm was due to hemorrhage beneath its outer, investing layer, and that the last extravasation so distended it as to end in rupture into the peritoneal cavity, causing death from shock and loss of blood.

The immediate source of hemorrhage could not be demonstrated, but was believed to be the placental vessels. The cyst-wall was three-fourths of an inch thick, made up of an outer thin layer completely or partially organized, enclosing blood-clot. Some portions of the clot were fresh, of deep color—others lighter and tougher, showing that extravasations had occurred at different times.

The second point suggestive of misplaced pregnancy was the fact of metrorrhagia. A fresh flow, like that of menstruation, occurred a few days before the rupture. It succeeded the brownish discharge, which had lasted several weeks. Some authorities regard this hemorrhage as of considerable diagnostic value. Parry says: "If metrorrhagia does not set in earlier, it is very likely indeed to make its appearance immediately before rupture of the cyst takes place;" and Barnes writes: "A condition that favors and gives warning of the impending rupture, is the hemorrhage which so constantly precedes it."

The third diagnostic point, in this case, was the separation and expulsion of the intra-uterine decidual membrane, and which, no doubt, was the cause of the metrorrhagia. Its formation probably occurs in all cases of extra-uterine fœtation, and is expelled in the early months, even of those which go to and beyond the normal term of gestation. When not found it has come away unobserved.

So that if a woman believes herself pregnant, and especially if she is convinced there is "something wrong about it," has recurring attacks of abdominal pain in the earlier months, accompanied by hemorrhage and the expulsion of a decidual membrane, with symptoms of miscarriage,

we may strongly suspect extra-uterine pregnancy. These are not conclusive, but of sufficient import to warrant a thorough examination. Either occurring alone would be suggestive; but associated they constitute the strongest presumptive evidence of misplaced pregnancy. Of symptoms in the early months sufficient to ensure a positive diagnosis there are few, if any, and it is one of the saddest features of this obscure accident.

Looking back and over the progress of this case, after the onset of her last paroxysm, the recurring pain alone led me to infer the condition found *post mortem*, for on no other theory could the symptom be satisfactorily interpreted.

That it may be classified as tubo-abdominal pregnancy seems quite clear from an examination of the specimen.

As to other diagnostic signs, and the questions of etiology and treatment, I trust the discussion of the paper will shed more light.

I have to thank Drs. Shaw, Bunker and Rockwell for valuable aid in preparing the accompanying illustrations.

PNEUMONO-DYNAMICS.

BY G. M. GARLAND, M.D.,

Assistant in Physiology, Medical Department Harvard University.

The subject which I have the honor of presenting is termed Pneumono-Dynamics; or, The Lungs as a Moving Power. I invite attention mainly to the dynamic influence of a lung upon a pleuritic effusion.

My attention was first called to this subject by the results of some experiments which I made in an endeavor to solve the so-called curved line of flatness.

I shall therefore begin my remarks by a brief description of the curve of flatness, and then continue with an account of my experiments, and the deduction which I have drawn from them.

In 1844 Damoiseau, of Paris, published a little pamphlet in which he maintained that the line of demarkation between pulmonary resonance and fluid flatness was not horizontal in cases of non-circumscribed pleurisy, but was a curve of a definite shape and character. According to him, the curve was a parabola, whose summit appeared first in the axillary region, and gradually rose with the increase of the effusion, while

its branches spread out laterally to sternum and vertebral column, until, finally, owing to the subsequent rapid ascent of these branches, the line became horizontal, with a larger effusion. The recedence of this line during absorption was in the reverse order of its previous advance.

These views of Damoiseau remained unnoticed until they were taken up and criticised by Wintrich, who ridiculed the idea of a parabola, and maintained that the line of flatness is always highest behind and thence descends obliquely downward to the sternum, though it may possibly present undulations in the axillary region. All deviations from this line were ascribed by Wintrich to adhesions. This opinion of Wintrich was adopted by all German observers, though some writers have endeavored to modify it in a few points.

In 1873 Prof. Ellis, of Boston, discovered that the curve in question is neither a parabola nor an undulating line descending from the vertebral column to the sternum. On the contrary, it is lowest behind, and thence rises in a letter S curve to the axillary region, whence it is prolonged with a slight decline to the sternum. Owing to its resemblance on the back to the italic *s*, I have termed it the letter S curve of flatness. (See Fig. 1.) Dr. Ellis also found that this curve was a constant factor in pleurisy, and that it presented certain uniform variations in shape, according to the size of the effusion.

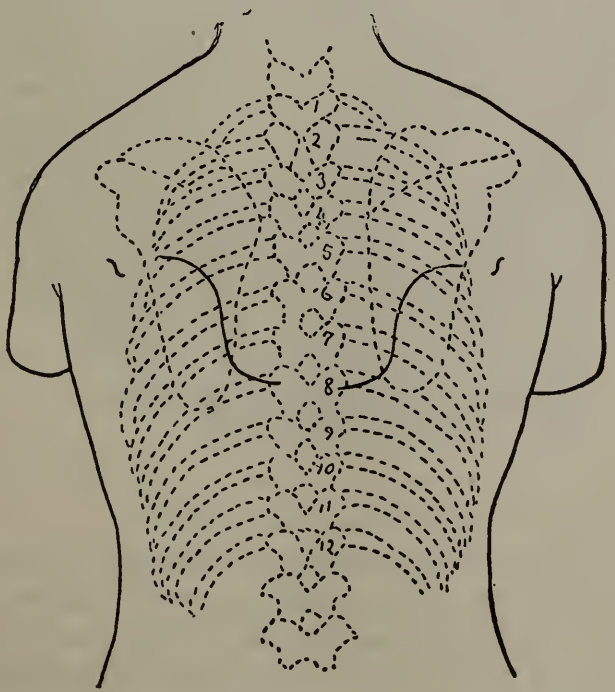


Fig. 1.

In thinking about the curves which Dr. Ellis had shown to the students, it occurred to me to inject the pleural cavity of dogs with some substance which would subsequently solidify, and render me a cast of the interior of the chest. I accordingly experimented with glue and plaster of Paris, and finally, at the suggestion of Dr. Ferber, of Marburg, with cocoa butter. The cast which I show you here is one of a large number which I obtained, and will serve to demonstrate the various points to which I wish to call your attention. The manner in which the cocoa butter was injected was as follows: I suspended a dog perpendicularly by the head, and introduced a pear-shaped canula into the pleural cavity by plunging it through the ninth or tenth intercostal space in the axillary line. Ordinarily, in order to hasten the operation, the fluid was forced into the cavity from a common wash-bottle, the entrance of air being carefully guarded against, and twenty-four hours were allowed for the complete solidification of the injection. I then removed the animal's skin, and percussed the chest, carefully marking upon the ribs the points of transition from pulmonary resonance to injection flatness. On subsequently connecting these points by a continuous line, I obtained a curve of flatness, which, being lowest behind, gradually rose to the axillary line, whence it proceeded nearly horizontally to the sternum. This curve, as you perceive, corresponded very accurately to the Ellis curve, and was always the same in its general features for small and medium injections.

Then, on opening the dog's chest, I found that the curve corresponded in shape and position to the lower border of the lung, and was coincident with the line of apposition between the lower border of lung and the upper mural border of the injection. The cast itself was situated below the lung, and seemed to float the latter upward. There was little or no injection between the lung and lateral chest wall, and, at the most, there was only a thin rim of butter intruding between lung and chest wall behind, in the vertebral groove. The cast was always lowest behind, and highest in the mediastinal region, where it often passed up around the heart. The fluid never assumed a hydrostatic level, unless air had been accidentally admitted with the injection. The lungs were never moulded in any manner by the fluid, but preserved their normal form, though reduced in volume. These results held good, whether the injections were made into living or dead dogs.

Here, then, we have the topography of our effusion, and we find that the line of demarkation between the lung and the effusion, as represented by percussion and by the solid cast itself, is not a parabola, nor is it higher behind and lower in front, as claimed by Wintrich and his followers, but it is a letter S curve, corresponding in shape and position to the

natural curvature of the lower border of the lung, and presenting features of strong similarity to the Ellis curve. If we study this cast still further (see Fig. 2), we notice that it is higher in the mediastinal region, A, than

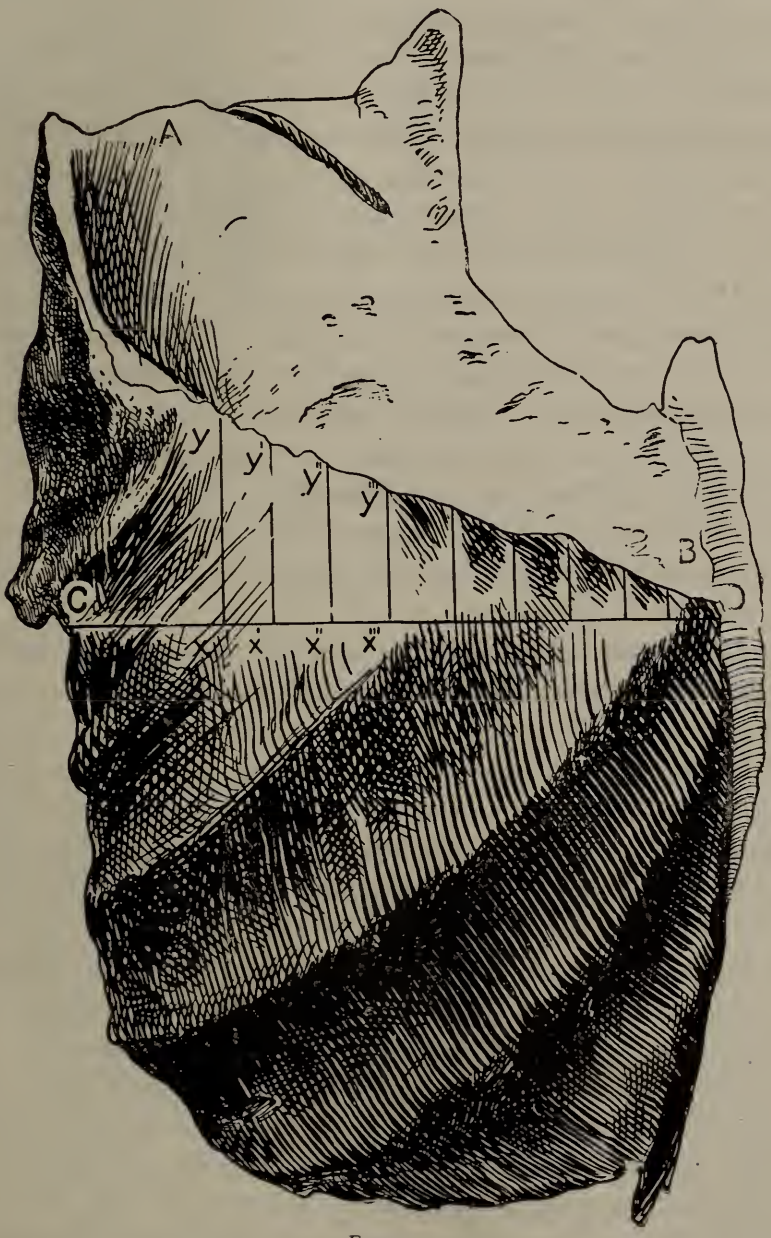


FIG. 2.

at its outer border, D. Its upper surface is convex from before backward, while its under surface is arched strongly upward. These inequalities of the upper surface of the cast struck me very forcibly, and led me to ask by what agency they were maintained. The column of fluid represented by the mediastinal portion, A, of the cast, is several centimeters higher than the costal border of the same fluid.

On placing dogs in other positions—as, reclining at an angle of 45°, or lying horizontally on their back—and then injecting, I obtained casts such as I present to you here in photograph. You will notice that these casts, although differing from the first in their details, nevertheless present one feature in common with that, viz.: They present columns of fluid elevated above a hydrostatic level, and sustained in a condition of inequilibrium by some external forces. In 1874 I concluded my graduating thesis upon this subject by the remark that the lungs seemed to be the moulding agent, and that they, in some manner, resisted the encroachment of the fluid. The irregularities of the upper part of the model were explained by the supposition that the fluid spurted up in parts where the pulmonary resistance was least.

Maturer deliberation, however, convinced me that these conclusions were incorrect, and, at the suggestion of Prof. Bowditch, I made the following experiments with rubber balloons enclosed in flasks of various shapes. I wish to state here that all of the experiments connected with this subject were performed in the laboratory of my friend, Prof. H. P. Bowditch, to whom I owe most grateful acknowledgments for the many valuable suggestions, and for the encouragement he gave me during the pursuance of the experiments.

I have here a red rubber balloon attached to a glass tube, and suspended in a pear-shaped flask by means of the tube, which passes through the rubber stopper. The flask has a second opening at its inferior apex which is continued into a long nozzle, B, and guarded by a revolving valve, C. (See Fig. 3.)

On opening the valve, C, and inflating the balloon, all air is expelled from the flask, and the balloon accurately adapts itself to the inner surface of the glass like a coating of red paint. Then the valve is closed and the apparatus is ready for use. There is no valve in the glass tube above, and, consequently, the air in the interior of the balloon communicates freely through the tube with the external atmosphere.

In the first place, I immerse the nozzle of the flask in a beaker of water and open the valve once more. You notice that the balloon immediately begins to contract, and is followed by a column of water, which occupies the space abandoned by the former. The balloon does not collapse entirely, but soon comes to rest in a state of partial expansion. If, now, I shorten the column of water by plunging the nozzle deeper into the beaker, the balloon begins again to contract. On the other hand, if I lengthen the column of water by partially withdrawing the faucet from the basin, but still leaving its nozzle immersed, the balloon begins to re-expand.

It follows from this that the retractile energy of the balloon is equiva-

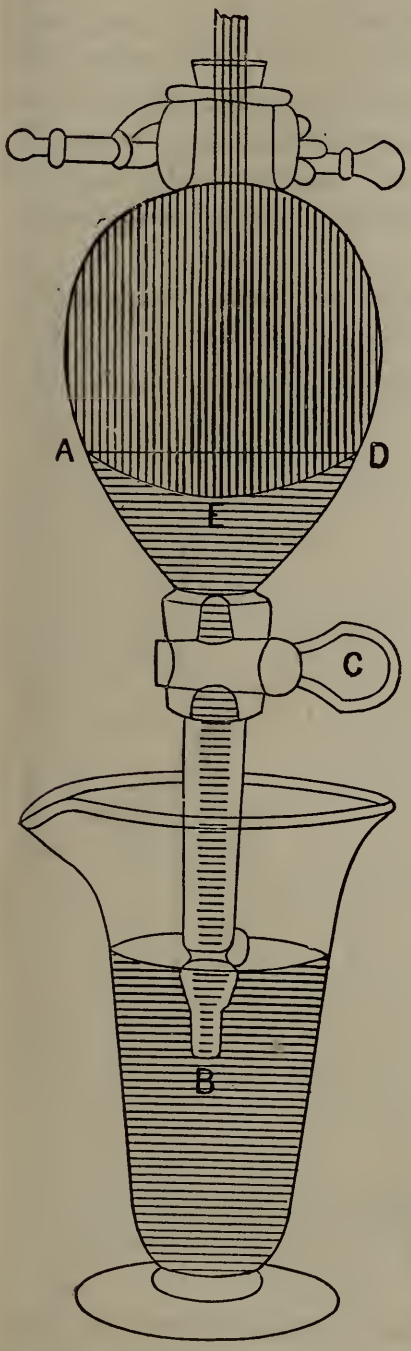


Fig. 3.

lent to the weight of a certain column of water, and when the balance between the weight of the column and the retractile force of the balloon is attained, all motion ceases. The mechanism by which the balloon acts on the water is simply that of an ordinary pump. Within the flask the retractile force of the balloon resists the internal atmospheric pressure by a certain amount. On the outside of the flask the external atmosphere is pressing freely on the surface of the water in the beaker. Consequently when the valve is turned the column of water in the faucet becomes subject to a greater pressure from behind than in front, and hence it follows the retreating balloon, or is "sucked up" by the latter, as *colloquialism* would express it. When, however, the weight of the column of water becomes equal to the retractile force of the balloon, it will resist the external atmospheric pressure to the same amount that the balloon resists the internal atmospheric pressure, and thereby an equilibrium between the antagonistic forces will be established, and motion will cease.

It is obvious from this that the column of water cannot compress the balloon—on the contrary, it must exert a negative pressure on the latter, by virtue of its weight. That such is actually the case is clearly shown by the following diagram, which I pass around. On this diagram the line, E, B, D (see Fig. 4), represents the shape which the balloon assumed when lifting a column of water.

A, B, C, shows the shape assumed when lifting a column of air equal in volume to the previous column of water.

The line, A, B, C, is sharply curved, while E, B, D, is very much flattened, almost horizontal, and the lines, "l, l, l," etc., show how much the contraction of the balloon was retarded by the weight of the water. Moreover, if the water in this flask were injected by a syringe, it is obvious that it could not compress the balloon prior to the complete collapse of the latter, unless the rapidity of the injection were greater than the rapidity of the contraction.

On further inspection of the flask you will notice the following important points:

First. The balloon, in contracting, preserves its form, and is not moulded by compression.

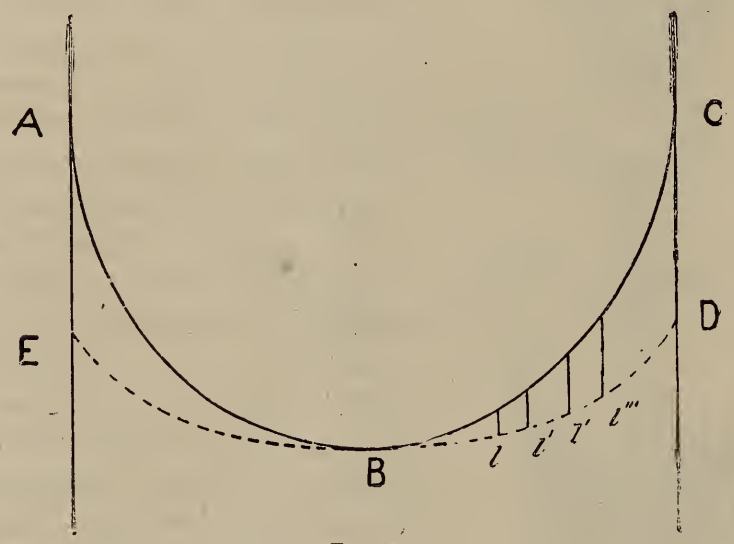


Fig. 4.

Secondly. The water, as it enters the bell, is distributed according to the shape of the balloon, and does not intrude between the balloon and sides of flask, even when injected.

Thirdly. The line of demarkation between the balloon and the water corresponds to the shape of the balloon.

If, now, I tip the flask on one side (see Fig. 5), you will notice that very slight change takes place in the relation of the parts—the body of water does not gravitate below the balloon, but remains held in its former position.

This is rather an amusing situation, and somewhat puzzling on first glance, because we have here a perpendicular column of water standing side by side, so to speak, with a retractile body which is striving to get

away from it. The explanation of the seeming paradox is very simple, however. The balloon is more expanded in the direction O, C, than in the direction O, D, and it retracts more forcibly in those parts which are most distended. Hence, the retractile force being greater in the longitudinal than in the lateral axis, the fluid adjusts itself to the superior force. The points, therefore, which I have thus far endeavored to illustrate, in connection with this elastic balloon, are as follows:

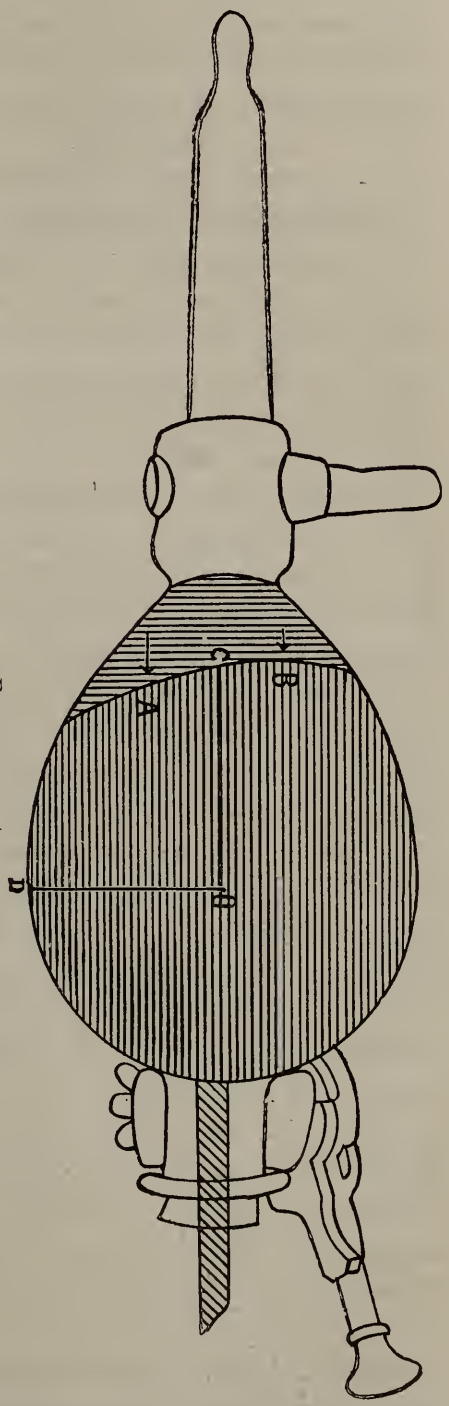


FIG. 5.

I. The retractile force of the balloon is equivalent to the weight of a certain column of water.

II. The column of water does not compress the balloon, but exerts a negative pressure upon it.

III. The balloon is not moulded by compression, but preserves its form in contracting.

IV. The water is distributed according to the shape of the balloon, and does not intrude between the latter and wall of bell until the balloon is nearly collapsed.

V. A small amount of water does not change its position on tipping the bell, but is held in place by the balance of retractibility in different parts of the balloon.

Allow me, now, to exhibit this apparatus, which consists of a cylindrical bell containing an elastic balloon under the same conditions as in the flask.

The lower extremity of the bell, however, is cut off square, and is covered over with a rubber membrane or diaphragm. On repeating upon this bell the experiments of the flask, we obtain precisely the same

phenomena which have been described above. In the case of the bell, however, we observe an additional phenomenon, incident to the diaphragm below. You see that not only a column of water is raised by the balloon, but the diaphragm is strongly arched upward, and does not become depressed until a large amount of water has entered the bell, and the balloon has become collapsed.

If you will now turn your attention to this bell, No. 2, you will notice that it is arranged in the same manner as bell No. 1, except that the balloon which it contains is not elastic. On endeavoring to demonstrate the points above enumerated on this bell, we see that the results in each case are exactly the reverse of those previously obtained. The balloon is unable to lift any column of water. When water is forced into the bell, the balloon immediately becomes compressed from below upward, and is folded into wrinkles. The water is not distributed according to the shape of the balloon, but its surface is nearly horizontal, being merely disturbed by the weight of the lower part of the balloon. On tipping the bell on one side, the water immediately gravitates beneath the balloon, and folds the lower portion of the same into wrinkles; and, lastly, the diaphragm is not arched up, but is pendant. It is obvious, therefore, that the phenomena which we have enumerated in our headings above are due to the retractile force of the balloon, acting under the conditions given in the bell. If we now return to the dog's chest once more, we shall perceive that there are certain points of relationship between the lung and the cocoa butter cast, which are precisely analogous to those obtained between the balloon and the water.

In the first place, on opening the chest, we found that the lung was nowhere compressed with small and medium injections, but was simply diminished in volume. On the other hand, the injection, instead of moulding the lung and driving it away from the chest walls, was, in fact, distributed according to the shape of the lung, and in opposition to its own specific gravity. The fluid appeared last, and in least quantity between lung and chest wall, whatever was the position of the animal. Moreover, on changing the position of the animal, we found that the fluid did not gravitate freely according to its specific gravity, but was held in a column between lung and diaphragm, in a manner analogous to the retention of the water between the balloon and its diaphragm. The diaphragm itself was arched strongly upward, and became pendant only when a large amount of fluid was injected and the lung had collapsed. Lastly, I found that the dog's lung is capable of raising a column of water about two inches in height. I tested this point by plunging a canula into a dog's chest, and then connecting it with a manometer by a

rubber tube. Dr. William H. Stone, of St. Thomas' Hospital, London, has since shown, by an independent series of experiments, that a sheep's lung will also lift a column of water two inches in height, under similar conditions. (See *Medical Examiner*, Jan. 24th, 1878.)

In short, we find that the various phenomena presented by our cast may all be grouped in one category, and referred for their origin to the retractile force of the dog's lung, and to the balance of retractility in different parts of the lung.

At this point the question naturally arises as to the application of these analogies to the human chest in cases of pleuritic effusion, and I think I can prove that such application is not only legitimate, but inevitable. In the first place, with regard to the lung itself, the Ellis curve teaches us that the lung, in contracting before an effusion, preserves its outline and the letter S curvature of its lower border, and this letter S feature becomes obliterated only when the effusion has reached a very large size. Assuming that this letter S curve is the line of demarkation between the lung and effusion, it teaches us that the fluid does not form a horizontal level; but that its upper surface is lowest behind, and highest in the mediastinal region, and that the fluid is therefore distributed according to the shape of the lung. In regard to the diaphragm, we obtain evidence of its position from the situation of the abdominal organs immediately beneath it; and on the left side we are assisted by the resonance or non-resonance of the semi-lunar space of Traube. Guided by these landmarks, all observers are unanimous in the opinion that depression of the diaphragm is one of the last symptoms of an increasing effusion, and that this membrane may often be arched upward, even with a very large amount of fluid in the chest. In respect to the visible lifting force of the lung, I am happy to refer once more to Dr. Stone's experiments, in one of which he interrupted the withdrawal of an effusion from a woman's chest long enough to test this point; and he says, "Although there were nearly four pints of fluid in the pleura, there was no external tension, nor inclination for fluid to come out. Indeed, every time she took an inspiration there was a negative pressure sufficient to support two inches of water."

The question of gravitation of an effusion with change in the position of the patient, is another point of importance. Skoda and Wintrich say that an effusion does not gravitate on change of position of the patient, and they attribute its immobility to adhesions. Fraentzel, Ferber and Weil maintain that the upper border of an effusion does change its level with changes in the position of the patient. I showed, in the bell, that a small amount of the fluid may be held immobile by the predominance

of retractile force in one part of the balloon over another part, although larger amounts of fluid will gravitate somewhat. It seems to me that the clinical testimony of the authors mentioned exhibit evidence of precisely the same conditions in the chest, and that the fluid is distributed and maintained in position by the balance of retractility in different parts of the lung, and not necessarily by adhesions. These various analogies, which I have hurriedly and imperfectly submitted to your consideration, convince me that the theories hitherto taught regarding the mutual relations between a lung and an effusion are fundamentally wrong, because they have neglected the all-important factor of the retractile force of the lung. I regret that I have not time to develop my theory still further in its application to the various symptoms of pleurisy, but I must close by referring once more to the Ellis curve of flatness. This curve is pathognomonic of an effusion in the pleural cavity, and may always be traced with uncomplicated effusions, unless the amount of fluid be excessive. As the effusion increases, the curve gradually flattens out, until it becomes nearly horizontal; but it resumes its letter S character again on recession of the fluid. Dr. Peter, of Paris, has endeavored to make the shape of the line of flatness diagnostic of the nature of the effusion; but I have found that the letter S curve is common to serous and purulent exudations, and is also present with the simple transudations of hydrothorax, and, therefore, it cannot be considered as affording any indication of the nature of the effusion, except that it is in a fluid state, and probably not encysted.

TREATMENT OF LACERATIONS OF THE CERVIX UTERI.

BY A. J. C. SKENE, M.D.

Laceration of the cervix uteri being so frequent an accident of parturition, and its repair one of the most valuable of recognized operations in conservative surgery, anything which tends to simplify or improve the character of the operation, must be of interest to the profession at large. It is with this view that I record the following points, derived from my own experience in the management of a number of these cases treated during the past year.

Some preparatory treatment is generally required, before the operation can be performed. The laceration is seldom of recent date, as the patient does not consult her physician on this special point until other means of relieving her symptoms have been resorted to and failed. Hence the cervix is usually found gaping, enlarged, eroded from pressure on the pelvic floor, and often in a state of cystic degeneration. I, of course, employ the means which have been found of service heretofore for the lessening of this condition, but have recently added others to the list. For example, in a bilateral laceration extending nearly, or quite, to the vaginal junction, the eversion of the parts is often so great as to require the removal of large portions of their surfaces before bringing them into apposition, or the tension on the sutures will be so strong as to cause them to cut into the tissues and prevent perfect union.

In these cases, I now, about ten days before the final operation, bring the parts together, without any freshening of their surfaces, and confine them by means of a small piece of sheet lead on either side of the cervix, held in position by a silver suture passed continuously through both ends of the leads. I then tampon the vagina carefully with *marine lint* (which answers admirably for this purpose, and can be retained *in situ* for two or three days without becoming offensive), thereby protecting the surrounding parts from the chafing of the clamp. At the end of a week I remove the clamp, and always find a softened and improved condition of the tissues. Three days later I operate, and have rarely had failure in a case so treated.

The use of the marine lint tampon, above referred to, is, even without the clamp, of service in reducing the abnormal condition of the lacerated cervix. I recall two cases in my practice during the past year of extensive laceration, but in each there was a syphilitic taint which forbade the operation for radical cure. As all other means had failed, I resorted to the tampon for bringing and holding the parts together, and in a very short time the improvement was most marked; the erosion had disappeared, cysts largely decreased in number, and everything was as favorable as could be under the circumstances. Of course, after a time, the former condition would return, as nothing but operation will effect a permanent cure; but it demonstrates the value of the treatment as a preparatory measure.

Having long been satisfied that the passage and adjustment of the silver wire suture present some difficulties to those not accustomed to its use, I determined to try the ordinary silk suture when an opportunity presented, which it soon did. The following case will give my experience with this method of operating. With the assistance of Dr. A. S. Clarke, I restored the cervix in a young woman, the laceration having existed

two years. The damage had been quite extensive, reaching the vaginal junction on either side; but everything promised success, eight silver sutures being used, and apposition perfectly obtained. The subsequent care of the case was assumed by Dr. Clarke, who withdrew the tampon at the usual time. At the end of the week we removed the sutures, and although the cervix appeared to be perfect before taking them out, not a particle of union had occurred. As the process of granulation was still going on, Dr. Clarke brought the parts carefully together, and confined them by six of Hoff's automatic needles, the vagina being tamponed, and the patient kept in bed during that time. No union was obtained, however, and I decided, after she had recovered from the effects of her long confinement to bed, to operate again and use silk sutures. Accordingly, about a month later, I had her come to my office, where we restored the cervix with six silk sutures, and, tamponing the vagina, she went to her home in the street cars, with instructions to keep moderately quiet, but not to confine herself to bed. Removing the sutures at the end of a week, we found perfect union. Since that time I have used the silk sutures in seven additional cases, without a single failure. In one of these menstruation occurred prematurely on the third day after operation, and the patient, being a nervous and rather intractable subject, rose from her bed, contrary to orders, and went to the water-closet in an adjoining room, where she passed a large clot of blood from the vagina. I certainly expected failure here; but was very agreeably disappointed, at the end of the week, to find complete union. I observe that the silk sutures cut the tissues very much less than silver ones, probably because they adapt themselves more readily to the change of shape of the cervix when the parts swell, as they always do. The sutures are easily tied by using *Carroll's knot tier*, or by passing the loop of a *Thomas curette* over one thread and making traction laterally with that, holding the other thread firmly in the fingers.

For the after-treatment of these cases, I think the less they are interfered with, the better. I always introduce the *marine lint* tampon, leaving it for forty-eight hours. After its withdrawal, unless some indication exists for it, such as a marked vaginitis or excessive leucorrheal discharge, I never employ the vaginal injection, care being taken, of course, to keep the external parts clean. Neither do I confine the bowels, or restrict the diet, any further than the quiescent state of the patient during convalescence requires. Except with very nervous or timid women, I never use ether or other anæsthetic, as the cervix uteri has so slight a degree of sensitiveness, that my patients rarely complain during the operation, and are spared the depression and nausea resulting from ether.

Should any small pockets or pinholes be found after removing the sutures, I leave them entirely alone for some weeks, till the process of involution has been fully completed, when they will be found to have diminished greatly in size. If, then, they are large enough to require treatment, I take a drop of pure nitric acid in a long glass pipette or instillation tube, and placing a piece of cotton to catch any overflow, gently insert it into the pocket, hoping to cause sufficient contraction to close it entirely, in which I have several times been successful. Any attempt by operative interference, at the time of removing the sutures, to close these pockets, is liable to tear open the fresh and still tender points of union.

SANITARY WORK OF THE BROOKLYN HEALTH BOARD IN THE CARE OF CONTAGIOUS DISEASES.

BY J. H. RAYMOND, M.D.

The sanitary work of a Health Board is in great measure dependent upon the sympathy and co-operation of the medical profession. It is not to be expected that this sympathy will be excited, unless physicians are aware of the nature of the work they are expected to participate in; and it is to give this information that this paper is presented.

During the year 1877 there were 5,529 cases of contagious diseases reported to the Health Office; of these 1,598 were fatal. For several years scarlatina and diphtheria have been the prevailing zymotic diseases; small-pox having caused no deaths since June, 1877, and no cases having been reported since July of the same year. In October, 1877, a plan was inaugurated, with the object in view of diminishing these terrible scourges. This, in brief, included the following:

First. To notify every physician, undertaker and minister in the city, that in all deaths from these diseases the funerals must be strictly private. This action was made necessary, because inspections showed that public funerals were the rule; that scores of people, many of them children, assembled to pay their last respect to a deceased friend, sitting for one or two hours in the same room with the body, which was never disinfected and the coffin always open. It was a frequent practice for the friends to kiss the corpse, even when the case was of the most malignant type. It was necessary, in one instance, to cause the arrest of a father who had permitted fifteen persons to be thus exposed. He was fined by the court. Six months ago the daily papers contained notices of deaths

from contagious diseases, stating that friends were invited to be present at the funeral. To-day such notices are seldom published, and when they are, steps are immediately taken to prevent such assembling.

Second. Notices are sent to parents, as soon as the case is reported by the physician, directing them to keep the child, and all other children in the family, from school. At the same time, all the principals of the public and other large schools in the city are notified of the name and address of every case of contagious disease reported, and instructed to permit no child from the infected house to attend school. It would be absolutely impossible to do this work without an additional clerk, were it not for the electric pen. During the Christmas holidays there were no schools in session, so that no reports of contagious diseases were sent to the principals. On the second of January a list of two hundred names and addresses of those reported during that period sick with scarlatina and diphtheria was sent to each school. Fifty such lists, making in all ten thousand names and addresses, were written, directed and mailed inside of three hours. To have done the same thing in the ordinary way would have taken one clerk at least fifty hours.

The following statistics of the deaths for the first quarter of 1877 and 1878 are of interest, as showing that this attempt to diminish the number of these diseases has not been a fruitless one.

	1877	1878
Small-pox	4	0
Scarlet fever	183	147
Diphtheria	228	131
Typhoid Fever	20	5
Total zymotic diseases	715	536

Deaths during April	1877	1878
Diphtheria	68	24
Scarlet Fever	70	37

If physicians made no reports, this work could not be performed. To be effective, action must be prompt. The neglect to report each case promptly prevents a prompt report to the schools, and oftentimes keeps in a crowded room a scholar from the very apartment where a malignant case of scarlet fever exists. The principals of the schools are in hearty sympathy with this work, and often letters are received calling attention to the fact that some one has scarlet fever or diphtheria whose name is not on our list; and many cases of which we would be ignorant come to our knowledge in this way. Want of care in filling out a report often creates great mischief. These reports are permanent records, and are brought into court and used as evidence, oftentimes against the owner of the house in which the contagious disease is said to have occurred.

Physicians not infrequently locate the case at the wrong number, and unless great care is exercised, the mistake might not be discovered. Promptness in making the report, and care in filling it out, will greatly aid the sanitary work of the Health Department.

PATHOLOGICAL SECTION OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Regular Meeting, April 11th.

The President, Dr. F. W. Rockwell, in the chair.

REPORT OF MICROSCOPICAL COMMITTEE.

The liver, in Dr. Westbrook's case of mitral stenosis, was cirrhotic.

The cysts in the kidneys presented by Dr. Richardson, of the City Hospital, were the ordinary cysts from occlusion.

CHRONIC DISEASE OF ANKLE-JOINT.

Dr. J. S. Wight presented the foot and lower portion of the leg from a girl 19 years of age, a patient in the Long Island College Hospital. About 3½ years ago she injured the left ankle in the neighborhood of the tendo achillis. An abscess formed, and was opened in the Dispensary by Dr. Rockwell. She was subsequently admitted to the hospital. About three years ago Dr. Wight cut the tendo achillis to relieve the pain of arthritis, there being, at that time, some talipes equinus. Two years ago he again divided the tendon.

On the 17th of April, 1877, he exsected the lower ends of the tibia and fibula, assisted by Drs. Ayres, Wallace and Westbrook, removing about 1½ inches. The operation appeared to be successful, the case progressing well. After some months fistulous openings appeared over the calcareo-astragaloid joint. They were accompanied by severe pain —"*in fact, she has suffered much pain from the first.*" As the disease persisted, amputation at the junction of the lower and middle thirds was performed April 10th, 1878.

A dissection of the foot, made by Dr. Westbrook, disclosed the following points:

1. Quite firm fibrous tissue joining the end of the tibia to the astragalus, showing no tendency to ossification. The lower end of the tibia and fibula covered by compact bone.

2. There was considerable tissue around the false joint, resembling, in gross appearance, sarcoma.

3. The sheaths of the tendons of the flexor longus digitorum and flexor longus pollicis were perforated, and contained a small amount of sanious pus.

4. The sheaths of the peroneus longus and brevis were also perforated and contained pus.

5. The interosseus (calcareo-astragaloid) ligament infiltrated and much softened at some points.

6. The cartilage of the sub-astragaloid joint showed signs of the commencing invasion of the disease.

7. The other tarsal joints were not involved.

8. There did not seem to be any proper tendon of the gastrocnemius left.

9. The projecting end of the posterior tibial nerve was cut short in the flap. It seemed to be enlarged.

Dr. W. suggested that this enlargement of the nerve might have something to do with the continuance of joint disease.

Dr. Rockwell said that he had charge of the case at first. The ankle was sprained, but the abscess did not appear till a few weeks after the sprain.

SARCOMA OF BREAST.

Dr. Wight exhibited a tumor removed from the breast of a woman 43 years of age, on the 16th of February, 1878.

Six months previously a small tumor appeared in the left breast, outside the nipple. It was denominated an abscess by a physician whom she consulted, and poulticing was recommended. The poulticing was continued almost up to the date of removal. When Dr. W. saw it there were no glandular enlargements, or evidence of constitutional infection, except that indurations of the skin were found on various parts of the body. He considered it a sarcomatous growth, and prognosticated a speedy repullulation.

The wound healed by primary adhesion, except at the axillary extremity, where there were rubber drainage tubes, and at the middle, where the integument was very thin. There was a markedly inodorous discharge for two weeks, with very little pus. No surgical fever. Temperature not over 100° F.

The Microscopical Committee reported that it was a spindle-celled sarcoma.

CYSTIC KIDNEYS.

Dr. Woodside presented the kidneys from the following case. S. D., æt. 15 years. Had always been delicate. Had a congenital hernia. Six years ago had an attack of convulsions, followed in three years by another.

Last August, after bathing, he had a severe illness, with convulsions and profuse epistaxis.

He continued listless and drowsy till April 1st, when he had a convulsion. They recurred on the two following days. Up to the third day he was perfectly conscious between the attacks; but on that day he became comatose, and died on the fourth. The urine was yellowish and turbid.

Was attended by homœopathic physicians, who diagnosed tubercular meningitis. Dr. W. made the autopsy at the request of the friends of deceased.

Head and thorax (except heart) not examined.

Heart.—Hypertrophy of left ventricle, without valvular lesion.

Abdomen.—Liver enlarged and congested.

Left kidney a mass of cysts (not much enlarged).

One cyst running up to supra-renal capsule.

The cysts contained clear serum.

Left ureter enlarged. The vessels of the left kidney were atrophied. Capsule adherent.

Right kidney more nearly normal. Capsule readily detached.

Dr. Merritt inquired as to the condition of the bladder.

Dr. W. answered that it was contracted and thickened.

SECONDARY TUMOR OF BREAST.

Dr. Rushmore presented for Dr. Hutchison a secondary growth from the scar following removal of a tumor of the breast. The primary tumor was non-traumatic, and had a history of malignant mammary disease. It was removed five years ago. The wound healed rapidly, and the patient was up in four or five days.

A short time ago it re-appeared at the axillary end of the scar. The patient is doing well. (Referred to the Microscopical Committee.)

Regular Meeting, April 25th.

The President in the chair.

REPORT OF MICROSCOPICAL COMMITTEE.

The secondary growth presented by Dr. Rushmore for Dr. Hutchison could not be classified, as it had not kept well. The impression was that it was not malignant.

FRACTURE OF VERTEBRÆ.

Dr. Wight showed a portion of the vertebral column from a man who

had sustained a fracture of the bodies of the eleventh and twelfth dorsal vertebræ. M. H., æt. 50 years, Ireland, was working on the screw of a propeller, when the latter slipped off from the ways. The keel struck him in the back and knocked him into the water. When admitted to the Long Island College Hospital, there was complete motor and sensory paralysis below the knees, and almost complete above, as far as the loins.

Sensation partially returned after forty-eight hours, but the loss of motor power was unchanged. The bladder and sphincter ani were paralyzed.

There was a sensation of heat in the feet and legs. The patient was kept upon his side most of the time, so as to avoid bed-sores. The symptoms continued the same till April 22d, 18 days after the injury, when he died.

Autopsy.—The spinal column only was examined. The bodies of the two last dorsal vertebræ were crushed, and the canal narrowed by flexion, so as to compress the spinal cord.

Dr. Shaw asked what was the immediate cause of death.

Dr. Wight replied that it seemed to be from exhaustion and a gradual failure of the vital actions. No visceral disease had been diagnosed before death. Out of deference to the wishes of the friends, the visceral cavities had not been opened, except at the location of the injured vertebræ. When the vertebræ were removed, the *kidneys*, posterior portion of the *liver*, and the inferior borders of the lungs, were seen, and presented no pathological appearances.

Dr. Bunker asked if there was any evidence of pulmonary œdema just before death.

Dr. Wight replied that he had not seen him directly before death.

ANEURISM AND CARDIAC DISEASE.

Dr. Rand, of the City Hospital, presented for Dr. Rushmore specimens from a case that had died in the hospital. The patient, a seaman, æt. 45 years, had syphilis eight years ago.

Two months ago he began to have slight attacks of dyspnœa, but continued to work till shortly before his admission (April 17th).

Physical examination revealed cardiac hypertrophy, with insufficiency of the mitral and aortic valves, and a systolic bruit at the base.

Old pleuritic trouble on the left and effusion on the right side. Nothing further was revealed by palpation. The brachial arteries pulsated visibly above the elbows. There was no appreciable difference between the two radial pulses. He complained of no pain or dysphagia, and but little cough.

Attacks of dyspnœa, with lividity of the face and neck, increased in frequency and severity, and the patient died on April 23d.

Post mortem.—Extensive *pleuritic* adhesions on the left side, and some *serum* in the right *pleural cavity*. *Lungs* much congested.

The *heart* was hypertrophied, and weighed, with the accompanying arch of the aorta, 24 ounces.

The *mitral* and *aortic* valves were insufficient.

The ascending and transverse portions of the *aortic arch* were the site of a tubular aneurism.

The inner coat of the vessel was calcified.

The aneurism had not ruptured.

The *liver* was cirrhotic and weighed 3¼ pounds.

The kidneys were normal.

In reply to Dr. Westbrook, Dr. R. said that the relations of the left pneumogastric nerve to the aneurism had not been studied.

Dr. Westbrook spoke of the influence of aneurisms on the pulmonary circulation, particularly where they were developed from the under side of the arch. He referred to a case that he had presented to the Section some months previously, in which the patient had died of pneumonia with a large, apparently dropsical, effusion into both pleural cavities. There was a large aneurism of the inferior wall of the arch, pressing downward on the left auricle and pulmonary veins. In this case, the only symptom of aneurism previous to death was a paralysis of the left vocal cord, and the aphonia resulting therefrom, diagnosed by Dr. French, and at the autopsy the left pneumogastric was flattened out on the aneurism. No rupture had occurred. There was no calcification, the walls appearing firm and fibrous. The man was syphilitic, and had been treated with the iodide of potassium.

MILIARY TUBERCULOSIS.

Dr. Wm. Wallace presented the *brain*, portions of the *lungs*, and the *spleen*, from a child 14 months of age, who had died of tubercular meningitis. The parents were both delicate, and the grandfather and two uncles on the mother's side were said to have died of consumption. Four months before death he had an attack of bronchitis, from which he recovered. He had suffered much from teething, and the gums had been scarified several times. One month before death, the mother, being worn out, weaned him. He had taken cod liver oil and comp. syr. phosph., and seemed to be doing well. Appetite generally good, sometimes voracious. The digestion was generally good, but he was inclined to costiveness. Ten days before death he caught a fresh cold.

Dr. W. examined the chest, as he had done repeatedly before, but

found no evidence of deposit or consolidation. After four days vomiting occurred, and continued two days. When this ceased, the right arm and leg and right nostril were found to be paralyzed. The left leg was kept in almost constant motion. Pupils not affected. Two days before death stupor supervened. There were no delirium or convulsions. There was almost continual rubbing of the nose. When the stupor became manifest the temperature rose to $104\frac{1}{2}^{\circ}$ F.

Autopsy.—The *arachnoid* cavity contained an excess of fluid. The *membranes* at the vertex showed no change, but at the *base*, particularly anteriorly, along the course of the *anterior cerebral* and *sylvian* arteries, and in the *sub-arachnoid space*, there was a considerable effusion of yellowish lymph. *Miliary tubercles* were visible along the course of the vessels. The *ventricles* contained an excess of fluid, but the ependyma did not appear to be softened.

Thorax.—The surface of the pulmonary and costal *pleuræ*, on both sides, was sparsely sprinkled with miliary granules. There was no effusion in the cavities.

The *lungs*, particularly their upper lobes, contained minute tubercular nodules, and showed evidence of bronchitis, but no consolidation. In the upper border of the right middle lobe was a cheesy nodule the size of a pea, evidently of considerable age.

Abdomen.—Miliary tubercles were found on the surface of the spleen, but nowhere else was there any gross appearance of them.

Dr. Westbrook, who made the autopsy, exhibited the microscopical appearances of tubercles of the pia mater.

Dr. Wallace stated, in reply to Drs. Shaw and Bunker, that the cause of the hemiplegia was not clearly made out; nor was the etiology of the tubercular disease, farther than the hereditary influence.

Dr. Westbrook said, in reply to Dr. Wight, that he thought a more thorough examination of the ganglionic arteries might have revealed the reason of the hemiplegia. As seen in the examination, the disease was about equal on the two sides.

The Secretary requests members who present specimens to present therewith a *written* account of the case and pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides. Address, Curator of Pathological Section, care of B. F. Westbrook, Secretary, No. 279 Clinton Street, Brooklyn.

BENJ. F. WESTBROOK,
Secretary.

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——Nitrite of Amyl, in *sudden* attacks of ague, has succeeded, in the hands of Dr. Gordon Price, of Jessore, Bengal, in reducing the cold stage to a few minutes' duration, and abbreviating the hot stage. He does not substitute amyl for quinia in the ordinary treatment of malarious fevers, but holds it in reserve for attacks which come on unexpectedly.—*Lancet*, March 23d.

——The Printer's Devil has a spite against Brooklyn names. The *Scientific American* gave a long account of the capabilities of Dr. Byrne's battery; but its origination was assigned to the name "Burns." And the *Lancet*, April 6th, quotes from Dr. Wight's article on Unequal Femora; but it styles him Dr. "Dwight."

——Dr. C. W. Vrooman has removed to Brunswick, Ga. The best wishes of many friends go with him.

——Dr. J. C. Shaw, of Brooklyn, was chosen President of the New York Neurological Society, and Dr. L. C. Gray, also of this city, was made Secretary of that Society.

——Dr. G. M. Beard contributes to the *Popular Science Monthly*, for May and June, an extended discussion, concerning "The Scientific Study of Human Testimony." . . . Dr. Beard is collecting materials relating to "writer's cramp" and allied affections, and solicits the aid of those who have knowledge of such cases.

——Dr. J. S. Prout writes to the *Med. Record*, May 11, a note on the "Intravenous Injection of Milk," commenting upon Dr. Thomas' recent paper on that subject.

——Dr. Adolph Orth, late of 162 McKibben St., E. D., died April 26, of pneumonia. Dr. Orth was surgeon of the 32d Regiment, and a well known and esteemed physician of his district. He graduated in medicine from the University of Munich in 1867.

——Dialysed Iron.—Dr. Wm. Judkins confidently relies upon this drug in the "diarrhœal troubles of children." He has used it in a number of cases, some of them decidedly grave, both in private practice and at the Children's Home, of Cincinnati, and recommends its further trial by physicians. Dose, from two to fifteen drops in water, every two or three hours. It is readily taken by children, being nearly tasteless. *Am. Practitioner*, May. . . Dr. Yandell writes that a year's extensive experience with this preparation has convinced him that it is an exceedingly reliable and rapid tonic. Read his article entitled "Bad Medicines," in the *Louisville Med. News*, April 27.

——The Normal Inequality of Lower Limbs.—Probably the first trial for malpraxis, that ever hinged on this fact in nature, transpired recently in Perry Co., Pa. Suit had been brought because of a shortened femur, after treatment, of five-eighths of an inch. The defendant's witnesses testified that a want of symmetry in legs frequently existed where there had been neither fracture nor injury. The cause was non-suited without delay, and "the imperiled surgeon went free." Drs. Agnew and Hunt, of Philadelphia, testified that they had measured many limbs and had found them unequal, without previous fracture; the brother of the plaintiff, whom they chanced to measure, had a normal difference of three-eighths of an inch. This trial is destined to become widely known, and to materially influence the history of this class of suits for malpractice. The researches of Dr. Jarvis S. Wight, of this city, will be long remembered in this connection.

——Mal de Mer.—As many physicians are expecting to cross the ocean this season, it will be appropriate to call attention the use of Mensman's Beef Tonic in sea-sickness. It has been very fully tested and has been a means of relief to many an ocean-tossed stomach. The surgeons of the Pacific Mail Steamers have found it of great benefit, and they now put it on their requisitions for every voyage.

——Dr. Chapman's Treatment of Diphtheria was, in part, the subject of discussion before the N. Y. Academy of Medicine, March 12th. Dr. J. Lewis Smith commended it highly, although he had but recently begun its use. Dr. S. dislikes the word "specific" as applied to any remedy, but was inclined to regard alcohol as approaching more nearly to a specific in diphtheria than any other at present at command.

——Publications Received.—Address before the Rocky Mountain Medical Association, June 6th, 1877, containing some observations on the Geological Age of the World. By J. M. Toner, M.D. Pp. 112. Washington, D. C., 1877. This dainty little volume is given up to archæological matters, extinct races of this country, and the origin of aboriginal medicine. . . . A sketch of the life of Dr. Toner accompanies this book, written by Dr. Thomas Antisell, of Washington. Although his "life" has been taken in this form, Dr. T. is still alive and active, and full of vigor.

The Vest-Pocket Anatomist. By C. Henri Leonard, M.D., of Detroit, 1878. Second edition. Price 50 cents. It is founded upon Gray's text-book.

Disseminated Cerebro-Spinal Sclerosis. A contribution to its pathological anatomy. By Drs. E. C. Seguin, J. C. Shaw and A. Van Derveer—with a plate.

Battey's Operation. Is there a proper field for it? By Dr. Robert Battey, Rome, Ga., with an extract from Dr. Marion Sims' article in the *British Medical Journal*, Dec., 1877.

Children's Eye-Sight. The Influence of Modern Education. By Dr. A. W. Calhoun, of Atlanta, Ga.

The Obstetrical Gazette will begin its career July 1st, at Cincinnati. Editor, Dr. E. B. Stevens, of Lebanon, Ohio. Price $3.00 a year. Dr. S. was for eighteen years the editor of the *Lancet and Observer*, of Cincinnati.

House Drainage and Water Service. By Jas. C. Bayles, editor of *The Iron Age*. Pp. 360. New York: David Williams, publisher. With observations respecting the causes that affect the healthfulness of dwellings in city and country.

——Pneumono-Dynamics, by G. M. Garland, M.D., Assistant in Physiology, Medical Department Harvard University. Paper, pp. 156. Hurd & Houghton, New York.

——The *Medical Record* of May 18th contains a graphic recital of the very remarkable experiences of a physician who had fallen captive to morphia. He was rescued at Parrish Hall, where, we learn, the results of treatment in opium habituation have been highly gratifying.

——Dr. R. M. Wyckoff has been appointed Registrar of Vital Statistics.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The June meeting will be held on the 18th, at which time the following Papers will be presented:

A Case of Uterine Fibroid successfully treated by Electrolysis, by Dr. J. N. Freeman.

Spasmodic Spinal Paralysis (Exhibition of Patients), by Dr. L. C. Gray.

Adjourned Discussion of Dr. Giberson's Paper on Extra-Uterine Pregnancy.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

OFFICERS AND COMMITTEES FOR 1878.

President.....Alex. Hutchins, M.D., 796 De Kalb Ave.
Vice-President.....C. Jewett, M.D., 310 Gates Ave.
Secretary.....R. M. Wyckoff, M.D., 532 Clinton Ave.
Assistant Secretary.....G. A. Evans, M.D., 449 Bedford Ave.
Treasurer.....G. G. Hopkins, M.D., 375 Grand Ave.
Librarian.....W. H. Thayer, M.D., 171 Livingston St.

CENSORS.

J. D. Rushmore, M. D., (Senior Censor), G. W. Baker, M. D., R. M. Buell, M. D., J. H. H. Burge, M. D., F. W. Rockwell, M. D.

DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

Drs. J. C. Shaw, S. G. Armor, R. M. Wyckoff, Drs. A. C. J. Skene, G. G. Hopkins, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

Drs. J. S. Andrews, C. Jewett, H. L. Bartlett, A. W. Catlin, J. C. Hutchison, Drs. J. E. Clark, W. H. Dudley, J. S. Hawley, A. Hutchins, C. H. Schapps, Drs. P. L. Schenck, S. F. Spier, E. R. Squibb, J. R. Vanderveer, J. Walker.

The A. M. A. meets at Buffalo, June 4th, 1878.

COMMITTEES OF THE SOCIETY.

HYGIENE.

Drs. F. H. Stuart, T. P. Corbally, J. Walker, W. E. Griffiths, J. H. Hunt.

REGISTRATION.

Drs. C. H. Giberson, W. E. Griffiths, J. A. Jenkins, Drs. W. G. Russell, N. Matson, F. W. Rockwell, Drs. R. M. Buell, R. W. Wyckoff,

PUBLIC INSTRUCTION.

Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, JUNE 18, 1878.

A CASE OF UTERINE FIBROID SUCCESSFULLY TREATED BY ELECTROLYSIS.

BY J. N. FREEMAN, M.D.

Miss O., aged 35, came to St. John's Hospital in March, 1876, anæmic and suffering from extreme nervous debility.

Menstruation had been profuse for fifteen years, and during that time had gradually been more and more painful.

Examination revealed a fibroid tumor in the right anterior wall of the uterus, more nearly approaching the peritoneal than the mucous surface. She was placed on the use of chalybeate tonics for a time, and then a persistent attempt was made to effect the expulsion or strangulation of the tumor by the administration of ergot, but with no benefit, and it was abandoned.

Her condition became gradually worse till December; when a consultation having decided that no surgical interference was admissible, I determined to attempt the destruction of the tumor by electrolysis.

The first operation, December 23d, 1876, in the presence of Drs. Jos. C. Hutchison, Wm. Gilfillan, J. H. H. Burge, Frank Rockwell, J. R. Bird, G. G. Hopkins, E. S. Bunker, A. W. Catlin, and Chas. Corey.

The uterine cavity was found to be five and a half inches in depth, measured by passing a sound to the fundus; the tumor was plainly felt through the abdominal walls, rising several inches above the pelvic brim.

After Dr. Corey had placed her under the influence of ether, I took a large sail needle, curved at the pointed end, and insulated to within an inch of the point, and passing it through the cervical canal, thrust it into the tumor, and connected it with the positive pole of the galvanic battery.

A straight round needle, similarly insulated, was thrust through the abdominal wall and into the tumor, taking care to avoid the bladder, and so as to come within an inch of the other needle, and was then connected with the negative pole of the battery.

The tumor was so dense and firm as to require very heavy forceps and much force to drive the needle into it.

A current from sixteen cells was continued through the needles for fifteen minutes. No unpleasant effects were experienced and she was out of bed the next day.

I repeated the operation in the same manner on the 2d of January, 1877, continuing the current for twenty minutes; also on the 9th, this time increasing the number of cells used to twenty-four and the time to twenty-two minutes.

The next week her menstruation was less profuse and less painful than usual.

I repeated the operation February 6th and 12th, increasing the time to one-half hour and using thirty-two cells.

March 6th, before the sixth operation, the uterus measured four and a half inches in depth.

The seventh operation was March 12th.

April 3d the sound passed into the uterus only to the depth of three and a half inches. The tumor was soft to the touch, and the needle could be easily passed in any direction through it with the fingers. Her general health was much improved.

This, the eighth operation, was unfortunate, as the needle that was passed through the abdominal wall into the tumor was stripped of its insulating covering, and the track of the needle so much irritated as to cause an abscess of a serious character, which was three months in healing.

I left her on the 26th of June for a long trip in the East, and did not return for eight months, during which time she had no treatment.

On my return I made a very careful examination March 2d, and again June 8th, 1878, and find only a trace of the tumor left. It cannot be felt through the abdominal walls. The sound will pass but two and a half inches into the uterine cavity and the uterus is freely movable in the pelvic cavity. Her health is nearly restored.

SPASMODIC SPINAL PARALYSIS.

L. C. GRAY, M.D.

I present two cases to the Society. The history of the first is as follows:

C. B., Irish, aged 30, car-driver, widower, of very temperate habits, came to my clinic for nervous and mental diseases, at the Long Island College Hospital, on May 8th of this year. About two years ago he was attacked with mild stitch-like pains in the right hip, accompanied by a sensation of coldness and weakness across the loins. These lasted a short while. Soon after the patient became aware of an increasing weakness in the lower limbs, which slowly progressed until September last, when he was forced to give up work. He states that at this date the weakness was so pronounced that he walked with great difficulty. Hospital treatment, which seems to have been simply dry cupping and a generous diet, produced some amelioration of the symptoms. Two months ago he left the hospital, and has since then been without medical supervision. At the present time the lower extremities are stiff. The gait is peculiar. He walks slowly, stiffly, with manifest effort. While the feet do not actually brush the floor, they are yet not raised far above it; and, as I have had occasion to observe, the fatigue of a long walk will cause the patient to slide his soles along the ground. Stumbles often in walking. A hitch upwards in the leg is affirmed to occur occasionally in walking, especially when he is "nervous." At times there is a tremor of the right leg, which may be brought on by any excitement. Cramps sometimes occur in the morning. The stiffness of the legs is sometimes so marked in the morning that the man can hardly raise himself in bed. Soon after rising, however, he improves, and the limbs are comparatively supple until about 10 A. M., when the rigidity returns gradually, rendering him almost unable to walk, and continuing until about 4 to 6 P. M., at which hours he recommences to improve, doing so until bed-time and sleep arrive to relieve him. The right arm is somewhat weaker than is normal. In going down a grade or a stairs, the patient feels as if he would pitch forward on his face. At no time since the onset has there been any marked disturbance of sensibility, except that when the weather changes there is a pain in the neighborhood of the right trochanter; but this is slight, indefinable, and not constant. The tactile sensibility in the right foot, as is evidenced by the æsthesiometer, is a very little less than in health.

The tendon-reflex is increased in the quadriceps extensor of each leg, being worst on the right. This symptom is also exalted in the muscles of the thigh, and in the extensor longus digitorum on the right.

There are absolutely no cerebral symptoms. The functions of the bladder and rectum are performed with perfect propriety.

Some time before the onset the patient had a slight malarial affection. There is no history of any exposure to inclement weather immediately antecedent to the initial symptoms. No cause whatsoever is known.

The patient whom I am now about to describe has been under the charge of my friend, Dr. E. C. Seguin, who, upon learning of my intention to treat of this subject to-night, has very courteously placed him at my disposal. It is with pleasure that I seize this opportunity of returning my thanks.

J. A., Irish, aged 32, has been a clerk in a dry goods store, unmarried, of temperate habits. As a child, patient used to fall often and severely on the knees. A woman who nursed him insists upon it that he had some defect in his walk when a child. About this fact, however, the patient is incredulous, and is not inclined to believe that there was anything noticeable in his carriage until about 10 or 12 years ago, when his comrades bestowed upon him the nick-name of "Timberhouse," because of a stiffness in his gait. Even at this time J. A. noticed nothing peculiar in himself, nor did he do so until about two years ago, when he first became conscious that he was beginning to walk upon his toes. This went on for about a year, when the legs became weaker and weaker, and then supervened a difficulty in going up and down stairs. At about this period there appeared, on going down stairs or any grade, an impulse to go faster and faster, as well as a sensation as if he were about to pitch forwards on the face. On a level there is no feeling of this kind. Upon rising in the morning the legs feel weak, but a few steps relieve him. The legs are stiff, resisting flexion and extension, the left being the worst. The walk is very striking. It is upon the toes, the body bent forward, the feet brushing the ground, being closely approximated. As the toes are put down, there is a slight spasmodic jerk of the body upward, as if the man were walking on unyielding rubber springs. There is, so to speak, a deliberate haste in the movements. The patient is very evidently going faster than is natural to his rigid limbs. He is easily thrown off his feet by any one pushing against him.

The tendon-reflex is exalted in the quadriceps extensor on each side, being more so on the left.

When the patient stamps on the floor with the tip of either foot, there immediately ensues a rhythmical tremulousness of the whole lower extremity, continuing for hours without inducing any fatigue. It can also

be evoked by forcibly flexing the foot, while quick, strong extension of the foot will much diminish it. This tremor is never spontaneous. The bowels are normal. When a desire to urinate is felt, it must be quickly gratified, or the bladder will involuntarily void its contents. There have been no derangements of sensibility whatsoever in this case.

These are fair illustrations of an early and a ripe stage of what is known as Spasmodic Spinal Paralysis, a disease which was first described as an entity by Prof. Erb, of Heidelberg, in 1875. The symptoms consist in contracture and paresis of the limbs, in slight muscular spasms, in exaggerated tendon-reflex, in hasty action of the bladder, a tendency to precipitation forwards upon going down a grade; and the course is eminently chronic. It is especially noteworthy that there is, in the vast proportion of cases, an absence of sensory aberration, except temporarily at the outset, or of any cerebral symptom. In addition, the rectum remains unaffected throughout the course of the malady.

The beginning of the affection is generally characterized by some moderate disturbance of sensation. This persists, as a rule, only during the first few months, although exceptionally it may recur at intervals for years. Mild tearing pains in the loins and limbs, a feeling of fatigue, a burning or coldness in the skin, formication and tingling in the extremities, or a furry sensation in the finger-tips, characterize this group of symptoms.

In all the cases weakness of the limbs appears at an early period, usually in the lower extremities, one side being, in the majority of cases, more affected than the other. The arms are attacked subsequently. It may happen that an arm and leg on the same side of the body will become simultaneously paretic, simulating a paresis of cerebral origin.

Sooner or later a muscular contracture supervenes, usually in the extensors and adductors.

Some spasmodic element is witnessed in most instances from the outset. Paroxysmally the muscles become stiff, or the patient complains of occasional twitchings, or of a tremulousness, such as you have seen in the patient before you, which can often be provoked by flexion of the foot and stopped by extension of the same, and which has come to be known by the misnomer of "spinal epilepsy." The gait resulting from this assemblage of symptoms, and which Erb has denominated the "spastic walk," is thus described by him:*

"The limbs trail. A certain uncertainty and slight swaying are unmistakable. The feet appear to cling to the floor and are drawn forwards with effort. The tips of the feet and the toes are hampered by every obstacle, by every slight enequality of the ground, and the patients

*V. Ziemsen's Handbuch der spec. Path. u. Therap. Bd. XI, 2 S. 96.

readily stumble and fall. Even on a level a very characteristic scraping noise is produced on the ground at every step by the tip of the foot or the ball of the great toe. The shoes are especially worn away at the tips and on the outer edges. In the more one-sided affection, the foot is often drawn into an arch forwards, as is to be seen in the hemiplegic. Generally there also appears a tendency upon the part of the patient to lift himself upon the tips of his feet and continue his walk upon the toes; at the same time he passes into a progressively quicker gait, and displays, on account of the hindrance offered by the tips of the feet, an increasing tendency to fall forwards. The legs, at the same time, are generally drawn closely together, and held stiffly, the knees being slightly bent forward, the whole body above somewhat inclined to the front."

The inability to retain urine for any length of time after the appearance of the desire to micturate is a symptom to which no allusion has been made by the European observers. Attention was first directed to it by Dr. E. C. Seguin.*

The tendon-reflex is a phenomenon which was brought to the notice of the profession simultaneously by two observers—Prof. Erb,† of Heidelberg, and Prof. Westphal,‡ of Berlin. It is simply an excitability of the tendons, causing them to contract upon the application of an excitation. It is best studied in the knee, which should be supported by the examiner's hand being placed in the bend, allowing the leg to dangle passively; or the legs can be crossed. One quadriceps extensor femoris is now gently tapped, and the foot is jerked forward. It is occasionally necessary to tap at different points of the tendon, for the whole surface is not equally sensitive. My friend, Dr. Thos. A. McBride, of New York, has pointed out that in order to evoke the phenomena in some cases the bare skin should be gotten at. It is stated to be invariably present in healthy people, but differing in intensity. The exact mechanism of its production is not altogether clear. It has been contended that it is due to an excitation conducted from the nerves of the skin. As cutaneous anæsthetization, however, does not prevent its production, this explanation is manifestly insufficient; and it seems most probable that the cause is to be sought in a direct irritability of the tendon or the contained nerves. An exaltation of this tendon-reflex was present in all Prof. Erb's cases, being constant in the quadriceps extensor femoris, but also exhibiting itself with varying frequency in numerous other muscles.

*Archives of Scient. and Pract. Med.—New York, Feb., 1873.

†Ueber Sehnen-Reflexe bei gesunden u. bei Rückenmarkskrankheiten, Arch. für Psychiatrie, 1874, p. 792.

‡Idem, p 803.

The *Etiology* is obscure. Women, it would seem, are more liable to the malady than are men. Charcot states that the disease is most common between 30 and 40 years of age. In Erb's patients, however, the greatest number were between 30 and 50. It may commence at 20; and Prof. Erb gives the history of three cases in which the symptoms, apparently, began in early childhood, as there is some reason to believe that they did in the second of the cases before you. Opinion varies as to the frequency of the affection. M. Charcot could only find five examples of it in the great hospital of La Salpétrière, and does not deem it very common. The German authority, on the other hand, regards it, with some reservation, as often to be met with. It is possible that a neurotic heredity may, in exceptional instances, be a factor in the causation. Erb animadverts upon the curious fact that seven out of his 16 cases came from Rhenish Bavaria, but offers no explanation. In one of my cases there was antecedent malaria; but it is doubtful whether the symptoms were in any manner connected with it.

The *Historical Record* of the malady furnishes a singular illustration of the manner in which acute and trained observers may repeatedly verge upon a great discovery, and yet fail, through accident, through lack of proper opportunities, or pre-existing pathological knowledge, or through mental preoccupation, to take cognizance of the prize that is partially within their grasp. As far back as 1837, Ollivier (d'Angers),* under the heading of "Chronic Myelitis," beneath which he had gathered several diseases that have since been shown to be distinct, described the "spastic walk" well nigh as accurately as Erb has done. Over twenty years ago, L. Türck,† of Vienna, published three cases of primary degeneration of the lateral columns of the cord, in which the symptoms appear to have been similar to those of the disease under discussion, if they were not identical. These investigations do not appear to have received the attention which they merited, probably because they were immured in local publications of limited circulation. In 1865 Charcot‡ narrated a case of what he termed "hysterical contracture," wherein the post-mortem examination displayed a bilateral sclerosis of a large portion of the lateral columns. The contracture had been at first wont to come

* Traité des Maladies de la moëlle épin. 3me edit., Paris, 1837, T. II, p. 426.

† Ueb. primäre Degenerat. einzeln. Rmstränge. Sitzungsb. d. Kaiser. Acad. der Wissen. zu Wien. Math. Naturw. Cl. XXI, S. 112. Jahrg. 1856.

‡ Sclérose des cord. latéraux de la moëile épin. Chez une femme hystérique atteinte de contracture perman. des quatre membres. Gaz. hébdom., 1865. No. 7.

and go, finally becoming permanent for nine years. In respect to other symptoms, as of sensibility, vesical functions, etc., the history is very incomplete. M. Charcot ventured the surmise at this time that there existed some connection between permanent contracture and sclerosis of the lateral columns. Upon another occasion M. Charcot* detailed two cases of progressive muscular atrophy, with the symptoms of spasmodic spinal paralysis, accompanied by a pathological substratum of lateral sclerosis, in addition to the characteristic lesion of the muscular wasting. Dr. E. C. Seguin,† in 1873, published an article on what he termed "Tetanoid Paraplegia," wherein he showed an appreciation of many of the symptoms appertaining to the malady under consideration. Nevertheless, as he himself candidly acknowledges, he failed to grasp the full significance of the phenomena. In 1874 M. Charcot‡ again expatiated upon sclerosis of the lateral columns, but insisted upon progressive muscular atrophy as the most prominent symptom. It remained for Prof. Erb to earn for himself the honor of being the first to recognize Spasmodic Spinal Paralysis as a clinical entity.§ The great Parisian teacher returns to the subject in a late lecture,‖ paying just homage to Erb; and several writers have contributed to the subject, notably Bétous,¶ whose brochûre meets with the emphatic approval of the Heidelberg discoverer. Finally, Erb** has recently published an elaborate paper upon the subject, with a history of 16 cases; and he may fairly lay claim to the signal distinction of having added a new disease to our nosology.

In regard to the *Pathology* our knowledge is in a curious condition. We feel certain, and yet we are not sure. We speak positively, and then we bate our breath. There is no doubt, however, that the disease is spinal, and not cerebral. What especial tract of the spinal cord it is which is structurally impaired is the mooted question. The researches of Türck and Charcot, to which I have alluded, point to the lateral col-

*Deux cas d'atrophie masc. progress. avec lésions de la Subst. grise et des faisc. antéro-latér. d. l. moëlle épin. Arch. de Physiol. II, 1869.

†Arch. of Scient. and Pract. Med.—New York, Feb., 1873.

‡Sclérose prim. de la partie postér. des cordons antéro-latér. Soc. de Biol.-Gaz. Med., 1874, No. 3, p. 38-39.

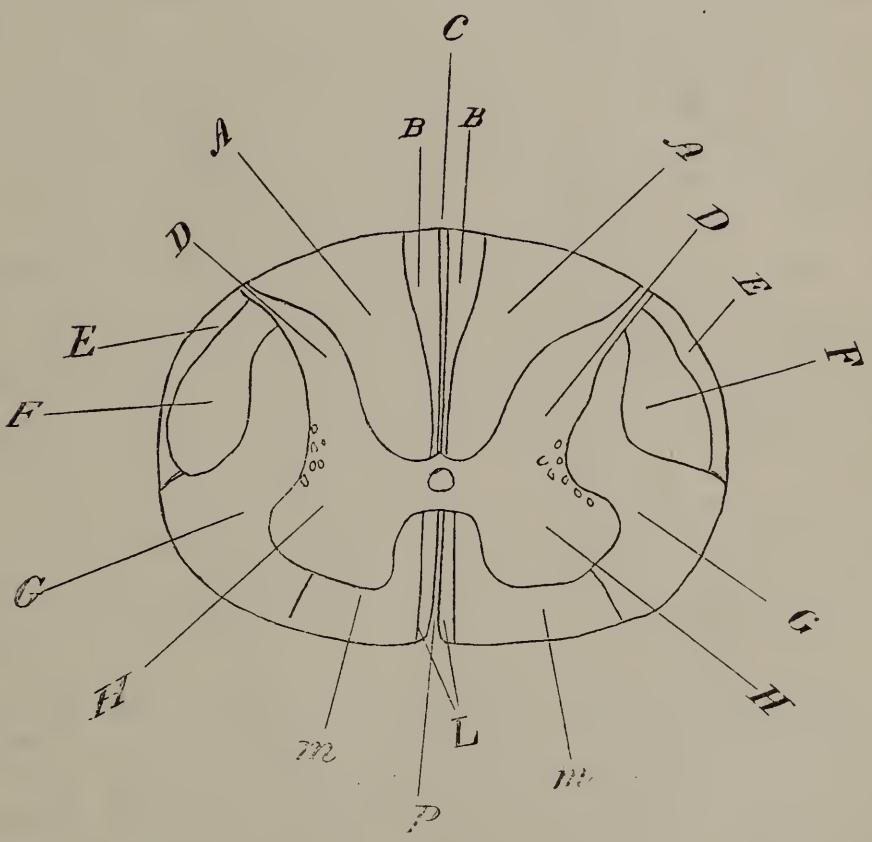
§Ueber einen wenig bekannten spinalen Symptomen-complex. Berlin. Klin. Wochenschrift. No. 26. Juli, 1875.

‖Leçons sur les maladies du systéme nerveux. 4e fasc , Paris, 1877.

¶Etude sur le tabes dorsal spasmodique. Paris, 1876.

**Virchow's Archiv., 9 Juni und 5 Juli, 1877.

umns as the strands to be suspected. Even if the publications of Türck and Charcot gave us no clue, we might still exclude many tracts of the cord as the possible sites of the morbid changes. Disease of any of the regions marked A, B or D, would produce marked derangements of sensibility, while it is an established fact that destruction of the cells of the anterior horns of gray matter leads invariably to muscular atrophy with paralysis. There remain nothing but the regions marked E, F,



G, M, which constitute the antero-lateral columns of the cord. The tendency, however, as I have said, of the publications of Türck and Charcot is to indicate that the lateral columns, and not the anterior, are the peccant parts. Moreover, there is, perhaps, additional evidence afforded by amyotrophic lateral sclerosis, which is, as you are aware, a disease characterized by muscular atrophy and contracture, and of which the anatomical substratum is a cellular destruction in the anterior horns of gray matter and a sclerosis of the lateral columns. As the wasting of the muscles as effect may be linked with the disappearance of the cells as cause, we may dismiss this element from our consideration; and the lateral sclerosis is all that is left wherewith to explain the contracture. But, according to the remarkable researches of a new writer, Prof.

Flechsig,* of Leipzig, what the French authorities have known as the lateral column is to be subdivided into three compartments, which are pathologically, and, to some extent, anatomically, distinct. The preceding figure has been taken from Prof. Flechsig's work. Situated to a large extent anteriorly is the lateral column proper (G), while more posteriorly the district, F, is designated as the crossed pyramidal column, which is composed of fibres derived from the opposite cerebral hemisphere; and still rather more to the rear, and bordering the periphery, is the direct cerebellar column (E). This author is of the opinion that these different strands are connected with different groups of cells in the anterior horns of gray matter. He deems it probable that the cells which are to be found in certain regions of the cord, around what are known as Clarke's columns, are connected with the direct cerebellar column. The cells at the posterior and outer part of the base of the anterior horn, and which have been styled the cells of the intermediolateral tract, have probably some relation to the lateral column proper. The large cells strewn over the anterior portions of the anterior horns are, he believes, the terminal stations of the crossed pyramidal columns, and the spinal centres of origin of the peripheral motor nerves. In a late critique,† Prof. Flechsig asserts that an analysis of all the recorded cases of amyotrophic lateral sclerosis has convinced him that the degeneration, outside of the anterior horns, is mainly in the crossed pyramidal column. Could we yield our assent to the deductions of this bold and keenly incisive mind, it would logically follow that disease of the crossed pyramidal column would be denoted by contracture, and would therefore be the part to which we should look in Spasmodic Spinal Paralysis. But cases have, within a short time, been recorded, in which a degeneration extended *partially* into the crossed pyramidal column without the supervention of contracture. Such a one was the case of progressive muscular atrophy, which was reported by Dr. J. C. Shaw at the March meeting of this Society; and a similar one has been detailed by Dr. Seguin. May it not be possible, however, that a limited destruction of the nervous elements in the crossed pyramidal column will not effect what a more extended area of impairment would cause? The theory advanced by Dr. Seguin§ in regard to the disease is, to my mind, not opposed to this view. He ascribes the phenomena, in a large measure, to some defect in the conduction of the inhibitory or regulat-

*Die Leitungsbahnen im Gehirn u. Rinark. Leipzig, 1876.

†Archiv für Heilkunde, Leipzig, 1tes Heft, 1878.

ing influence of the hemispheres, in consequence of which the automatic activity of the cord is uncontrolled. In support of this hypothesis, he directs attention to the fact that when the patient afflicted with spasmodic spinal paralysis lies in bed, the contracture is not troublesome, which is to be regarded as evidence of a quiescence in the functional activity of the cord; whereas, immediately upon the patient arising, the contracture returns, as the automatic spinal activity, increased by disease, is unchecked by any restraining mental influence, and responds intemperately to excitation. For the sake of argument accepting this theory, which has much to recommend it to our careful consideration, it would seem doubtful whether a disintegration of a limited number of fibres would materially interfere with the conduction of this cerebral inhibition; and therefore I cannot but think that these cases of partial disease of the crossed pyramidal column, without attendant contracture, are of extremely doubtful import. Be this as it may, I venture the prophecy, in view of the wonderful advances that have been made in nervous pathology in the last decade, that the pathological anatomy of this malady will be known before the expiration of the next ten years. In the mean time, the neurological world, in generous emulation, stands on the alert for the first post-mortem.

The *Prognosis*, so far as danger to life is concerned, is not unfavorable. The symptoms may slowly progress until a condition of utter helplessness may be attained. In one of Charcot's cases pulmonary tuberculosis had supervened, as often happens in the later stages of many varieties of spinal sclerosis.

The *Diagnosis* is not, as a rule, difficult. The disease is essentially a motor one. The contracture, the paresis, the increased tendon-reflex, the absence of sensory derangements, are symptoms which separate it sharply from other spinal affections. But these symptoms must remain isolated; for it may occur that the disease, in other spinal degenerations, may also implicate or even begin in the lateral columns, thus uniting the signs of spasmodic spinal paralysis to some other symptomatic group. This is especially apt to be the case in disseminated sclerosis. I scarcely feel at liberty to encroach so much further upon your time as to enter into the details of differentiation.

The *Treatment* is unsatisfactory, as might have been expected in a disease which has only been recognized during the last three years. Erb claims to have obtained good results from galvanization of the cord and the affected limbs. Large doses of the bromides of potassium, sodium or ammonium, given singly or together, will, according to Charcot, diminish, or entirely relieve, the contracture and tremor during the administration of the drugs, but not longer. In Dr. Seguin's case salivation

was tried, but failed utterly in effect. In my case, C. B., the patient has been much improved under treatment with half-drachm doses of fluid extract of ergot three times daily; but the second sufferer, J. A., has derived no relief from drachm-and-a-half doses of the same medicine three times daily.

In conclusion, I desire to dwell for an instant upon the *Nomenclature.* The title of Spasmodic Spinal Paralysis does not very felicitously express the phenomena of the disease; for the peculiarity lies not in the spasm, but in the union of spasm with contracture. The name of Tetanoid Paraplegia, suggested by Dr. Seguin, is a much happier selection. Were it desirable simply to possess a name adequately describing the symptoms, it would be best to adopt the latter cognomen. I am of the opinion, however, that we shall do more to make our profession an exact science if we yield to the tendency of modern times, and strive to create a pathological classification of diseases, as has been done with a certain success in spinal lesions. I should therefore deem it unwise to confuse our nomenclature with a new designation, however apt it might be; and should rather prefer to wait until the day in the near future when we may perhaps speak of Spasmodic Spinal Paralysis as Idiopathic Lateral Sclerosis.

PARACENTESIS OF THE DRUM-MEMBRANE THE CONSERVATIVE, AND NOT "HEROIC," TREATMENT OF SEVERE INFLAMMATION OF THE MIDDLE EAR.

BY J. S. PROUT, M.D.

In the PROCEEDINGS for May, 1878, p. 124, reference is made to an interesting paper by Dr. J. P. Cassells, of Glasgow (*Edinburgh Med. Journal*, April, '78), on cases of acute aural disease, caused by living in an atmosphere contaminated by sewer-gas. The comment is made that "this acute inflammation of the middle ear * * is heroically treated by Dr. Cassells—namely, by the incision of the membrana tympani, and the evacuation of the distending secretions."

As I consider that Dr. Cassells' treatment was eminently judicious, I beg leave to object to the epithet used, although the word "*heroic*" occurs in Dr. C.'s paper. Dunglison, in his Medical Dictionary, applies the epithet *heroic* "to remedies or treatment of a violent character." Is it "heroic" treatment to reduce a dislocation, to amputate a crushed

limb, to open a felon, to tie a bleeding artery, to puncture a distended bladder when the catheter cannot be introduced? The anatomical and pathological relations of the parts in acute inflammation of the middle ear are such, that in a very considerable proportion of cases puncture of the drum-membrane, with evacuation of the fluid contents of the drum-cavity, is as clearly indicated as any one of the procedures just mentioned, and is in the truest sense conservative treatment.

The operation is a simple one, and can injure no important part if properly performed.

What are the anatomical relations involved in acute otitis media? The drum of the ear, or the middle ear, is a cavity, one wall of which is a thin, but quite resistant, membrane, by which it is separated from the external auditory canal; the other walls are of bone, in which there are openings leading to adjacent parts. In a small proportion of cases in the roof of this cavity there are defects of bone, and the seat of a severe inflammation is separated from the membranes of the brain only by a very narrow interval of soft tissues, through which blood-vessels pass. In the normal condition the permeable Eustachian tube gives an outlet into the pharynx. As an extension of the drum-cavity we have the antrum and cells of the mastoid process—a very complicated and inaccessible series of connected cavities. These different parts are lined by a common mucous membrane.

When acute inflammation of a severe grade occurs in the middle ear, the lining membrane swells, more or less completely closing the ordinarily permeable Eustachian tube, while, at the same time, fluid is poured out into the cavity, the containing capacity of which is already much reduced by the swelling of its lining membrane. For this fluid, which constantly increases in quantity, there is no escape except *through* the drum-membrane into the external auditory canal, or into the mastoid antrum and cells, the bony walls of which may be either spontaneously perforated, or may require to be opened into by the surgeon, to permit the pus to escape. When this external outlet is not obtained, and at times, even in spite of it, the pus may pass through the bone, which is there very thin, or in which there may be defects, and thrombosis of the lateral sinus, meningitis or abscess of the brain result. In other cases the inflammatory process passes through the roof of the drum-cavity into the cranium, and death follows from the resulting intra-cranial disease.

The accumulating fluid in the drum-cavity presses equally in all directions; but the drum-membrane is the only part which can yield, and perforation *always* results if the inflammation continue. If this is severe, there may be destruction of the whole membrane. When the fluid escapes there is usually a decided mitigation of the symptoms: but it must

be borne clearly in mind that the longer perforation is delayed, the more the lining membrane of the middle ear suffers, the more deeply the inflammation becomes fixed, the more difficult it will be to effect a cure. The mastoid cells may have become already involved, and the perforation may be too late to prevent the formation of mastoid abscess.

Is it possible to avoid this train of evil results? *Not always* by skillful and timely treatment; *very seldom indeed* by leaving the case to Nature, which cannot be depended on to work a cure. The surgeon must interfere, and at the earliest possible moment (in severe cases) give exit to the distending fluid, thus relieving pressure and pain, and thereby very greatly moderating the inflammatory process. When this is done sufficiently early, in a very large proportion of cases there is rapid recovery.

As the summer is coming on, it may be well to call the attention of the members of this Society to the fact that the entrance of water, during bathing, causes many severe cases of middle-ear disease, that demand the evacuation of the contained fluid. The use of the nasal douche is also not infrequently followed by similar results.

NOTE.—The remarks, of which the above is an abstract, were illustrated by Politzer's plates, and the normal anatomical relations explained on temporal bones, that had been recently prepared for the purpose.

A CASE OF EXTRA-UTERINE PREGNANCY.

By W. McCOLLOM, M.D.

The subject of this case was Mrs. S., æt. 36, the mother of five children, the youngest two years old. Of her previous pregnancies there is nothing of interest to note. Until the time she conceived about February 1st, 1856, the catamenia had been regular. After a month or a little more, she suffered from the gastric sympathies of gestation, nausea and vomiting. About three months after conception she began to complain of pain in the hypogastrium, which increased from week to week, attended with paroxysms of fever.

Examination through abdominal walls revealed what appeared to be an enlarged and pregnant uterus; but it was observed that the enlargement was more in the right than the central hypogastrium. As the case progressed the pain and suffering increased, and large doses of opium were required to give relief. Sixty to eighty drops of tinct. opii were given *pro re nata;* the opium was given during six months of the pregnancy. At about the usual time of quickening, motion was distinctly felt.

I now quote from Dr. Wm. M. Huntington, of Rochester, Vermont, a prominent physician of that State, and my former partner. I am principally indebted to him for this history, for the case did not come under my observation until the last year of her life. He says: "I was called to visit her about the first of November, nine months subsequent to the time of her supposed conception. She appeared to be in labor, having frequent and severe labor pains. On examination per vaginam, the uterus appeared perfectly normal, no dilatation of the os, the vagina in a normal, natural state. The abdomen presented a large mass, more upon right side, which appeared not unlike the pregnant uterus at full term. She suffered from what seemed like parturient pain for about thirty-six hours, when the pain gradually subsided and she appeared quite comfortable. On the fourth day after she had a free secretion of milk, so free that the mammæ were relieved by the nursing of a young pup for three months. From this time until about one year before her death, and eleven years after conception, she had a fair degree of health. About one year after conception the menses appeared regularly until she passed the climacteric, at the forty-fourth year." The case came under my care for treatment a few months before her death, though I had seen the case several years previous.

I was informed at this time that for several months immediately previous to my attendance she had been under the care of homœopathic doctors, and that for several weeks of their earlier attendance her bowels had been confined, without effort being made to ensure their evacuation. Hahnemann homœopathy at that time being in vogue. After this period of intestinal inactivity and impaction fecal evacuations were established. For two or three months before her death she had frequent extremely fetid dejections, passing, at times, small fœtal bones, near the close of her life. She suffered much from nausea and vomiting, was unable to take and retain food, and died from exhaustion eleven years after this misplaced conception.

But for the bad management in allowing the intestines to become and remain impacted, I know of no reason why she might not have lived many years longer; for the fistulous opening, from the intestine to the interior of the cyst, which probably resulted from the impaction, it is presumed caused her death.

The autopsy was made the day following her death. I was assisted by Dr. Huntington. On opening the abdomen, we found a large cyst, with extensive peritoneal and intestinal adhesions, fixed in right side of abdomen. The sac had become adherent to large intestine, and a fistulous communication had been established from the intestine to the interior of the sac containing the fœtus; this communication, which freely admitted

intestinal and fecal secretions, had, no doubt, existed many weeks, for the soft tissues of the fœtus had been largely macerated—sufficiently so to set free some of the bones which had passed per anum before her death. I removed the skeleton, completed the maceration of the soft tissues, and now present it to you for your inspection. An examination of the bones will be sufficient evidence that the fœtus lived about the ordinary term of utero-fœtal life.

The right fallopian tube and right ovary had disappeared in the growth of the cyst.

Left ovary normal. The uterus normal in size, and free from disease.

This case, probably, was interstitial tubo-uterine, a rare variety of misplaced gestation, or peritoneal pregnancy. No trace of cicatrix was found in the uterine parietes to make it evident that the ovule was originally there attached; but the absence of such cicatrix, after so much time had elapsed, would not be negative evidence.

The confused mass of disease, the changes which resulted from the pressure of the fœtus upon the surrounding parts, the inflammatory adhesions of the cyst walls to the adjacent tissues, rendered it impossible to clearly determine the point where conception took place.

PATHOLOGICAL SECTION OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Regular Meeting, May 23d, 1878.

The President, Dr. F. W. Rockwell, in the chair.

The Curator presented microscopic sections to the Museum:

1. From the epithelioma of the lip, presented by Dr. Schenck in February.

2. From the secondary growth in the submaxillary region following epithelioma of the lip, presented by Dr. Rushmore for Dr. Hutchison.

3. From a very beautiful and rather rare tumor, alveolar sarcoma, presented by Dr. Rushmore in January last.

4. From a nasal polypus removed by Dr. French.

5. From a sarcoma of the testicle, presented by Dr. Schenck in February. It was removed from a boy seventeen years old.

Dr. Rockwell said that he had seen the boy about two weeks ago. There was, at that time, an immense glandular enlargement in the in-

guinal region and a rapidly growing tumor in the abdomen. The spermatic cord seemed to be unaffected.

Dr. Bunker said that this was an illustration of the quick recurrence of sarcomatous tumors, as distinguished from the carcinomata.

COLLAPSE OF LUNGS.

Dr. Merritt exhibited the lungs of a child seventeen months old that died the day before at the Sheltering Arms Nursery. It was admitted one year ago, ill-nourished, and with chronic bronchitis.

The mother had recently died of consumption; she had lost five other children. It had a constant pasty diarrhœa, and it was impossible to restore it to a proper condition of nutrition.

There was a slight serous effusion in both pleural sacs and also in the pericardium.

The *lungs* were of a dark purplish color and failed to crepitate. Considered that portions of them were in the first stage of a pneumonic process.

Liver was rather large and mottled.

Spleen slightly enlarged and congested.

Mesenteric glands much enlarged.

Intestines and stomach yellowish and fatty.

The patient was under the care of Dr. Bunker at the time of death.

Dr. Bunker said that the child, though seventeen months old, had never walked. It had a prodigious appetite, but was markedly emaciated; large belly; knobbed appearance at sides of sternum; perspiring about the head. He thought it a case of rachitis. Three or four days before death it had a severe attack of bronchitis. The day before death the respirations were very shallow and rapid; temp. not above 101° F. He thought that it was one of those cases of rachitis where, owing to the loss of motility in the chest, a bronchitis which otherwise might have been recovered from proved fatal.

In reply to various questions, Dr. Bunker stated that no further implication of the osseous system than that mentioned was apparent; that it continued to take food till shortly before death; that there was no lividity up to two hours before death, and that the agony lasted about four hours.

SCIRRHUS MAMMÆ.

Dr. Stuart presented a tumor of the breast removed by Dr. Skene from a single lady forty years of age. Two years ago she found a lump in the left breast. It increased in size until nine months ago, when it was removed in London. Two months ago she noticed one in the right breast. It was hard and pained her at night. She saw Dr.

Van Buren, who advised removal. The health was apparently good. There was a large amount of adipose tissue all over the body. There was a small point of ulceration near the nipple. A point of induration was found in the left axilla, which appeared seven months after the first operation.

The hemorrhage was great and hard to arrest.

The surface was sponged over with Squibb's strong solution of zinc chloride. Dr. Skene has found this a very useful application.

It healed without suppuration. Dr. Segur had examined the growth microscopically and found it largely cellular. He supposed it to be scirrhus.

Dr. Giberson thought the amount of hemorrhage in such operations depended upon the method of operating. If removed entirely with the knife, the hemorrhage would be considerable; but if an incision were made through the skin only, and the growth enucleated with the fingers, it would be much less.

Dr. Rushmore coincided, but thought the reaction after the tearing would be greater.

Dr. Mathewson related the case of a young man, a patient of Dr. Segur's, whose sight had become dim. Dr. M. found, on ophthalmoscopic examination, neuro-retinitis albuminurica. Dr. Segur had since found the evidences of Bright's disease in the urine.

Another case had come to the Eye and Ear Hospital the day before; a young girl, on examination of whose fundus showed retinal hemorrhages and deposits in the retina, suggesting Bright's disease.

The urine contained much albumen.

In several cases of pregnancy where the vision was interfered with, the symptoms had disappeared after the delivery, and the retinal changes had cleared up.

It was not very common to find evidences of renal trouble in his clinics.

Almost any form of retinitis might accompany Bright's disease.

Dr. Segur thought that chronic Bright's disease was much less frequent in women than in men. He could recall many cases of the latter, but very few of the former.

EXECUTIVE SESSION.

It was resolved, "That this organization be known as 'The Brooklyn Pathological Society,' and shall be the pathological section of the Kings County Medical Society."

N. B.—The Secretary requests members who present specimens to pre-

sent therewith a *written* account of the case and pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides. Address, Curator of Pathological Society, care of B. F. Westbrook, Secretary, No. 279 Clinton St., Brooklyn.

BENJ. F. WESTBROOK,
Secretary.

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——AMERICAN JOURNALS are quoted with increasing frequency by the foreign journals: the *Edinburgh Journal*, and *Practitioner*, especially, make numerous abstracts. In the April number of the latter journal, twenty-six paragraphs are selected from British and foreign journals; thirteen of these are from those of this country, the rest are about equally divided between the French and German.

——UNUSUAL CAUSE OF DEATH.—A death recently occurred in this city from the explosion of a package of Boynton's Liquid Stove Polish, while the latter was in use near the fire. The polish contains naphtha with black lead, and is a highly dangerous compound.

——TABULATED NOTES ON CHILDREN AND SOME OF THEIR DISEASES, *for the use of Students.*—By H. N. Read, M.D., and J. Walker, M.D., clinical assistants to the chair of Diseases of Children, Long Island Hospital Medical College. Brooklyn, N. Y. 1878. This little manual is designed for the use of students in the Long Island College, as a memory-freshener on diagnostic points in certain diseases.

——In order to obtain reliable statistics as to the frequency, etc., of accidents to the ears from bathing, Dr. Prout begs the members of the Society to send him (167 Clinton Street) memoranda of such cases as may come under their observation during the present summer.

——The Eye and Ear Hospital is at 208 Washington Street, near Concord. Patients received daily at 2 P. M.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The July meeting will be held on the 16th, at which time the following Papers will be presented:

Pancreatine, its Physiological Action and Therapeutical Uses. By Dr. J. S. Hawley.

The Importance of Good Nursing. By Dr. Benj. Edson.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

OFFICERS AND COMMITTEES FOR 1878.

President.....Alex. Hutchins, M.D., 796 De Kalb Ave.
Vice-President.....C. Jewett, M.D., 310 Gates Ave.
Secretary.....R. M. Wyckoff, M.D., 532 Clinton Ave.
Assistant Secretary.....G. A. Evans, M.D., 449 Bedford Ave.
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CENSORS.

J. D. Rushmore, M. D., (Senior Censor), G. W. Baker, M. D., R. M. Buell, M. D., J. H. H. Burge, M. D., F. W. Rockwell, M. D.

DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

Drs. J. C. Shaw, S. G. Armor, R. M. Wyckoff, Drs. A. C. J. Skene, G. G. Hopkins, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

COMMITTEES OF THE SOCIETY.

HYGIENE.

Drs. F. H. Stuart, T. P. Corbally, J. Walker, W. E. Griffiths, J. H. Hunt.

REGISTRATION.

Drs. C. H. Giberson, W. E. Griffiths, J. A. Jenkins, Drs. W. G. Russell, N. Matson, F. W. Rockwell. Drs. R. M. Buell, R. W. Wyckoff,

PUBLIC INSTRUCTION.

Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, JULY 16, 1878.

PANCREATINE, ITS PHYSIOLOGICAL ACTION AND THERAPEUTICAL USES.

BY J. S. HAWLEY, M.D.

The object of this paper is to determine, as far as may be, from the teaching of Physiology, the place of pancreatine in therapeutics, or, in other words, the right use of pancreatine as a physiological remedy. To this end it will be necessary to present a resumé of the physiological action of the pancreatic secretion.

Its office remained unknown long after the use of the salivary and gastric fluids had been satisfactorily demonstrated. As late as the year 1842 a writer in the *Lancet* said, "He thought, indeed, we had no fact which would lead us to determine that the pancreatic fluid was of any service in the process of digestion."

In 1845 Bouchardat and Sandras demonstrated the action of pancreatic juice upon amylaceous substances, converting them into glucose, and concluded they were thus prepared for assimilation. (*Lancet*, June 21, 1845.)

In 1848 Claude Bernard discovered the emulsifying power of the pancreatic fluid upon fat, and inferred that the transformation of fat through its agency was analogous to the action of the gastric juice upon albuminoids—that is, it fitted the fat for absorption by the lacteals, and for its office in nutrition. According to Bernard, this process, like stomach

digestion, is a change of form, and not a change of chemical composition. This was shown by the fact that in the production of the change neither glycerine nor fatty acids were evolved; and also by the fact that fat taken from the lacteals has the same composition as before emulsification. Flint says, "Concerning this point there is no difference among physiological chemists. The fat which is contained in the lacteals is always neutral: and the absence of any fatty acid has been recognized by Bernard, as well as by others. The inevitable conclusion to be drawn from this fact is, that while fat may in part be decomposed into acid and glycerine by the pancreatic juice out of the body, in the natural process of digestion either this does not take place or the acid is not absorbed by the lacteals. The greatest part, if not the whole of the fat which is digested in the small intestines, is simply formed into an emulsion by the pancreatic juice, and undergoes no chemical alteration."

I desire to emphasize this fact because a distinguished pharmacist has recently defended the true character of the pancreatine made by himself, on the ground that it acidified fat. Neither is the emulsification produced by the pancreatic fluid simply a mechanical mixture. This is sufficiently proved by the fact that sulphuric ether, which destroys all mechanical mixtures of fat, has no effect in disturbing a pancreatic emulsion; the emulsified condition remaining unaltered by ethereal solution. Furthermore, pancreatic emulsification is in no sense a saponification.

It will throw some light upon our subject, and assist in coming to a rational conclusion, if we notice in passing a remarkable feature common to each of the digestive processes—that is, they all effect their digestion without disturbing the chemical constitution of the substance digested; or, to be more particular, amylaceous substances, before digestion, are the same chemically as glucose after and albuminoids before—the same as peptone after and fatty bodies before—the same chemically as emulsions after digestion. This analogy, running through the three great digestive processes, serves to give us a uniform law of digestion. The important role which the pancreatic secretion plays in the process of digestion appears more plainly if we reflect that it is capable of performing *all* of the principal digestive acts. As we have stated, it was first demonstrated to be able to convert starch into glucose; next, Bernard proved its *peculiar function of emulsifying fats*, and subsequently, Corvisart, Kuhne and others have abundantly shown its ability to convert albuminoids into peptone; this latter property, however, being subsidiary to the action of the gastric juice, only completing the unfinished work of the stomach.

Let us now proceed to notice the agreements and antagonisms in the different digestive processes. The first in the series is insalivation, which

takes place in the mouth during the process of mastication. When we reflect that the action of ptyalin is nearly instantaneous, we can readily perceive that much may be accomplished in the act of mastication and deglutition, and the short space of time before the alimentary mass becomes permeated by the gastric juice in the stomach. But does this process continue after saturation by the peptic fluid? Dalton (*Amer. Jour. Med. Sciences*, Oct. 1854, page 318) has demonstrated upon fistulous animals, that starch introduced into the living stomach is not converted into glucose, and then goes on to say: "Outside the body, too, gastric juice entirely prevents the saccharine conversion of starch by the saliva. A thin solution of boiled starch mixed with an equal quantity of saliva, kept at 100° F., is completely converted into sugar in ten to fifteen minutes; but if an equal quantity of fresh gastric juice be previously added to the mixture, there is no trace of sugar at the end of three hours, and the starch retains its usual properties. It must be acknowledged, therefore, that though saliva converts starch outside the body, when digested alone in test tubes, yet it does not have this effect, so far as we can ascertain, during the natural process of digestion in the stomach."

We see, then, that in the stomach, salivary digestion, which is confined to saccharine and amylaceous substances, ceases, and the gastric digestion begins, though the former is still incomplete. Gastric digestion, which is confined to albuminoids, is more protracted, and at its termination the alimentary mass passes the pylorus; and this process is also incomplete when the food leaves the stomach. But does it continue in the duodenum and small intestines? This, as will appear, must be answered in the negative.

Arnold's experiments show that the "absence of bile in the intestinal canal neither hinders the digestion and absorption of albuminous substances nor that of amylum; *but the absorption of fat appears impaired*, as a proportionally large quantity is passing off with the fæces."—(*Am. Jour. Med. Sciences*, April, 1856.)

That is, if the bile be not present to antagonize the pepsin, the pancreatine fails to perform its office, "bile precipitates with the gastric juice." If four drops of bile be added to one drachm of gastric juice a precipitate falls which contains the whole of the coloring matter of the bile. The gastric juice, notwithstanding this precipitation, retains its acid reaction, but at the *same time loses its power of dissolving albuminous substances.* For, if gastric juice which has been precipitated in the above manner be filtered and then kept in a test tube at the temperature of 100° F., with a piece of boiled egg, the white of egg becomes somewhat transparent and brittle, and grows contracted and cracked, *but the gastric juice exerts little*

or no dissolving action upon it. It is the biliary substances themselves which cause the precipitation with the gastric juice. But the biliary substances themselves are not precipitated.

It is thought by Bernard that *the contact of bile stops altogether the digestive action of the gastric juice.* We have found, in point of fact, that the bile of the dog's gall bladder always precipitates with the gastric juice as it passes from the stomach into the intestine. The *gastric fluids precipitate with the pancreatic juice as well as with the bile,* when mixed in a test tube; while the *two intestinal fluids, bile and pancreatic juice, do not precipitate with each other."**

Leube (Cyclopædia of Practical Medicine, page 350, vol. VII), speaking of the function of the bile, says, "Especially in the precipitation of the syntonine and pepsin, *whereby the digestive action of the pepsin is suddenly arrested in the duodenum."*

Physiologists have differed as to the permanency of the destruction of the gastric juice by the bile, Poppenheim and Bernard thinking it to be final, Leube believing that the pepsin may be redissolved by hydrochloric acid and recover its digestive action. But this question does not affect our argument, as only in the stomach could it be so redissolved.

It would appear, then, that in the duodenum the action of the pepsin ceases and the alimentary mass is subjected to the action of the pancreatine, which, as we have seen, is capable of completing the work of the ptyalin and pepsin, as well as of emulsifying the fats.

In the light of the foregoing facts, we readily see why the third digestive agent is endowed with a three-fold action—a kind of digestive trinity, three offices in one fluid.

This brief statement constitutes the physiological argument. I will now relate a few experiments bearing upon this subject made by myself. In these experiments I used De Fresne's pancreatine and my own pepsin. It is not necessary to state here the formula by which these experiments were made; but it is sufficient to say that the ordinary methods of performing artificial digestion were employed. Beef was the substance selected for digestion, because it contains fat.

First, 2 grs. pancreatine and 2 grs. pepsin in the same solution digested 35 grs. of beef, and left the fat unaltered on the surface.

Second, 2 grs. pancreatine digested 16 grs. of beef, and no fat remained on the surface.

The first experiment shows that pepsin with some pancreatine acted feebly, and the pancreatine not at all. The second that pancreatine alone acted both upon the beef and the fat.

*J. C. Dalton, *Am. Jour. Med. Sciences*, Oct., 1857, page 305.

The next experiment was made with lactopeptine (whatever that may mean), which contains both pepsin and pancreatine.

First, 4 grs. of lactopeptine without acid digested 18 grs. of beef, and no fat remained on the surface.

Second, 4 grs. lactopeptine with acid digested 36 grs. of beef, the fat remaining unchanged on the surface.

These experiments show, first, that lactopeptine with its pepsin undeveloped by an acid digested beef feebly and acted upon fat; that is, not being acidulated, it acted only as pancreatine. Second, when acidulated so as to bring its pepsin into action, it ceased to act as pancreatine: in other words, it cannot perform both digestions at the same time.

Again. First, 2 grs. of pepsin in acid and water digested 58 grs. albumen.

Second, 2 grs. pepsin in acid and water and one-eighth part beef's gall digested nothing. That is, bile destroys the digestive power of pepsin.

The conclusion to be drawn from the foregoing remarks is, that pancreatine should not be administered by the stomach, for the reasons:

First. Because nature has produced pancreatine below the stomach, and therefore it is not intended to pass through it.

Second. Because pepsin and pancreatine precipitate with each other, and therefore cannot act together.

Third. Because nature has provided for the destruction of pepsin by the bile at the very point where it comes in contact with the pancreatine; and by a fair inference we may conclude they cannot act at the same time in the same place.

I am aware some clinical observations have been made *apparently* favorable to the action of pancreatine by the stomach; but these have not been sufficiently numerous, or accurate, or properly analyzed, to be of scientific value; especially as clinical observations which controvert the positive teachings of science, supposed and believed to be true, should be taken with many grains of allowance and after patient waiting.

To quote the oracular words uttered a few weeks ago on this floor, "No medical fallacy, from the earliest times to the present, has prevailed, which has not been able to summon an ample clinical experience in its support."

How, then, can pancreatine be used as a remedy?

By its action upon alimentary substances before they are taken into the stomach.

Notably is this the case in the emulsification of fatty matter. In tubercular consumption, and in emaciating diseases of all kinds, the administration of fatty foods is of the first importance. Now, as there is much

reason to believe that defective pancreatic digestion in all cases co-exists in, and in many cases is the cause of such diseases, the value of pancreatized fat becomes apparent. But this conclusion does not alone rest upon *à priori* reasoning. Clinical observations, both extended and accurate, have confirmed the correctness of such conclusions. Dr. Horace Dobell has collected and arranged several hundred cases from different sources, affording conclusive evidence of the value of emulsified fats. Furthermore, by pancreatic emulsification of cod-liver oil, the greatest bar to its administration, viz.: indigestion caused by portal obstruction, is effectually removed, because after such emulsification the oil is directly absorbable by the lacteals.

Admitting the truth of the statement that, in tubercular consumption and other emaciating diseases, the pancreatic secretion is defective, and connecting this with the admitted fact that the administration of cod-liver oil obstructs the circulation of the liver and impairs the secretion of bile, we can readily see how the pancreatic digestion of fat would be diminished and the condition of the patient rendered worse by the very remedy administered for his relief. This difficulty is ordinarily met by intermitting the use of the oil and by disgorging the liver by the use of cathartics.

Both of these devices are injurious to the patient; the former (intermitting the use of the oil) by depriving the patient of a remedy supposed to be important, and of which the need is urgent; the other (catharsis) by further weakening an already debilitated patient. Now, if it be true that pancreatized oils are absorbed directly by the lacteals, thereby relieving the liver from danger of obstruction and consequent diminished secretion, a great difficulty is overcome and two important ends obtained, viz.: furnishing the patient with fatty aliment and giving full scope to the action of his own digestion.

In the present state of our knowledge, the only reason to be assigned for the preference for cod-liver oil over other fatty substances, is the greater readiness with which it can be introduced into the system, and not any superiority in itself. Indeed, from a physiological standpoint, it must be considered inferior to the solid fats. Cod-liver oil consists largely of oleine, whereas human fat contains, proportionably, a much larger amount of stearine and margarine.

Now it is not to be supposed that a fat differing widely in its composition from the normal fat of the system is to be preferred to one more nearly conforming to its own constitution. Hence we may conclude that if solid fat could be rendered equally or more digestible than cod-liver oil it would be preferable.

Now the pancreatizing of fat accomplishes this very end, and puts it in

our power to successfully administer solid fat in a state to be readily appropriated by the system.

If, in the few remarks now made, I have contributed anything to rational therapeutics or sound pharmacy, my object is accomplished. Especially if I have erected the slightest barrier against the tidal wave of unreasoning impulse with which specious reasoning and adroit advertising have deluged the community and the profession, in the absurd use of pancreatine alone and in a multitude of combinations, I believe myself entitled to more than the reward of self-satisfaction.

THE IMPORTANCE OF GOOD NURSING.

BY BENJ. EDSON, M.D.

Under the head of "The Importance of Good Nursing," I have grouped together sundry observations which lay no claim to extended research or scientific investigation, which, perchance, do not come strictly within the scope of my theme, but which are strung together upon the one slender thread that they all pertain more or less directly to the care of the sick. They deal with matters admitted to be commonplace, and are designed to be merely suggestive.

The problem presented to the physician is, not alone what medicines are needed by the patient, or what operation may be required, but at the same time, and scarcely separable from these considerations, he must take into account the surroundings, and be reasonably assured as to the care and nursing the patient will presumably receive. Measures that would be advisable under favorable conditions must sometimes be modified or wholly rejected on account of unfavorable surroundings and conditions, or in the inevitable absence of proper care and attention. Not unfrequently the physician is forced to admit, in critical cases, that the hope of recovery lies not in his skill or in the power of his drugs, but chiefly, if not solely, in the certitude of intelligent and faithful nursing.

There are many surgical operations, the performance of which brings renown to the surgeon, and yet whose ultimate success depends in no small degree upon the discretion and fidelity of the nurse to whom the patient is entrusted.

Tracheotomy is not usually a very difficult operation, but when performed the surgeon cannot but be anxious respecting the unremitting

watchfulness of attendants, lest a few moments' delay bring the case to a speedy and unfortunate termination.

Many a case of labor calls for little more than patient watching and waiting on the part of the accoucheur, while upon the subsequent ministrations of the nurse depends the restoration to health and the avoidance of serious complications, and not seldom are imperiled, by an incompetent nurse, even the life of both mother and child. The more complicated and serious the case, the greater the need of a trained and skillful attendant.

Medical science can scarcely be ranked as an *exact* science. The complex problem of etiology, diagnosis, prognosis, and treatment, involves so many elements of uncertainty that the physician is hardly surprised at finding himself baffled where he most longed for and most expected success; not to say sometimes successful where he has least reason to expect a favorable result. In these latter cases, physicians sometimes modestly accept the thanks gratefully accorded to their accredited skill, as a just offset for the disappointments experienced when the termination is less satisfactory.

A common, if not an essential step towards treatment usually involves the writing of a prescription. It would be gratifying to believe that physicians are always careful and make no mistakes in this part of their service; that the zig-zags representing drachms and ounces are judiciously used, plainly written and numerically right.

Drug clerks are but human and fallible, and what with toiling sixteen or eighteen hours a day, Sundays included, with the multiplicity of names, scientific and popular, of drugs and their compounds, the puzzling abbreviations and free-hand chirography often presented for them to decipher, sometimes in haste, together with many other duties occasionally devolving upon them, it is not surprising that mistakes are sometimes unwittingly made. These, if infrequent and involving no serious consequences, may in some measure be excusable. But there is reason to believe that the drug business presents a far worse and a manifestly more reprehensible feature. That not a few drugs are by somebody adulterated or sophisticated, is readily susceptible of proof.

That unprincipled druggists do sometimes substitute for medicines prescribed, which they have not, others not called for, but which they chance to have; that they combine of costly drugs less than ordered, or replace them wholly or in part with something less expensive, is a modest statement of the truth resting upon something stronger than mere suspicion. I know of nothing meaner or more contemptible than the mercenary wretch, who, for paltry gain, by this species of unconscionable fraud, robs patients of the chance and hope of health, and even of life

itself—"coins their life's blood into golden drachmas" to fill his hungry coffers.

Physicians often prescribe complex and costly compounds of drugs for patients barely able to pay for them. Among the poor, the purchase of medicines for the sick is a matter of serious consideration, involving a straitened economy in the necessaries of life. Such prescriptions may be laid by unused, or perchance may be put up at some cheap shop, where, perhaps, the essential ingredient is wholly omitted.

Such facts as these emphasize the importance of physicians dispensing active remedies largely from their own pocket-case. Druggists are not over-modest in their charges, and they do not recognize a sliding scale of prices suited to the ability of the customer—a practical feature that physicians are daily compelled to observe. Druggists, I believe, rarely trust their wares, when doctors do their time and skill, with people whose prompt or ultimate payment is a matter of considerable uncertainty. It is easier for a poor person to get trusted for fifty dollars' worth of doctoring than for fifty cents' worth of drugs.

Physicians are too apt to omit plain, full, written directions for the guidance of the patient or nurse in administering the medicines ordered. Matters familiar to the physician, as names and doses of drugs, with a conception of their potency, are usually fraught with incomprehensible mystery to the ordinary layman. It is a quite common practice to give verbal directions, and write on the prescription to be transferred to the bottle, "Sig. Take as directed."

Many years ago I consulted an eminent physician in regard to an acute neuralgic affection of the eye. He gave me two prescriptions, stating that one was for a topical application, the other to be taken internally. I took them to an apothecary indicated by him, who put up in two similar bottles, liquids much alike in appearance, and duly wrapped them up. On reaching home and removing the wrappers I found upon the label of each bottle "S. As directed, by Dr. Blank." The case being urgent, and the distance to the doctor's and the druggist's considerable, I ventured to take at random the contents of one bottle, and applied the contents of the other to the eye; but whether I did not take the eye-wash and apply the internal remedy as a collyrium, I never knew. Suffice it to say, that in due time I recovered, but whether in consequence of the treatment or in spite of it is still undetermined. In ordering powerful or poisonous remedies, it is a wholesome precaution that the quantity to be given, and the conditions of administration, should pass under the scrutiny of an intelligent druggist, and the directions be plainly written by him; thus sometimes preventing fatal errors resulting from the patient misunderstanding or forgetting verbal

directions, to say nothing of thus rectifying any other possible source of error.

The wisdom and efforts of the doctor, however, may be brought to nought, and his reputation even seriously compromised, simply through the neglect or maladministration of the nurse.

The semi-professional nurse, who knows little and learns nothing, but whose fealty to the traditions is only less tenacious than her faith in the omens and superstitions that flourish in the atmosphere of the sick chamber, is perhaps now rarely to be met with; and though it may be "there ain't no such a person as Mrs. Harris," there are remaining still a few modified types of the order of Sairey Gamp. Such nurses are not to be trusted. In your presence they may seem to agree with you and to follow your directions, but in your absence they are apt to proceed in their own way and do about as they please. Not infrequently they carry on a secret course of practice contemporaneously with your own, probably affecting it, perhaps neutralizing it completely. Their consciences are sufficiently elastic to justify to themselves any measures they may choose to adopt to follow their own inclinations, to deceive the physician, and keep in the good graces of the patient.

In most public institutions the scanty wages paid preclude the possibility of employing as nurses any but such as are either imbecile, incompetent or of more or less questionable character. Every one responsible for the management of such institutions has felt the need of improvement in this regard, has perhaps been induced at times to overlook moral delinquencies on the part of nurses of fair ability, rather than incur the risk of filling their places with those less efficient, though perchance more honest or virtuous. Until better wages are paid, this want of good nurses in infirmaries, nurseries, hospitals and asylums, must continue to be a serious evil, and the sick and unfortunate be subject to the tender mercies of those to whom a considerate man would not willingly entrust a valued horse or a faithful dog.

In the very nature of things, much of the care of the sick in the family must devolve upon the ordinary home-help—upon parents, members of the family, servants and volunteer assistants. With a large number of the poorer class, the adult patient is scarcely relieved from family cares and perplexities, even while prostrated on a bed of sickness. Mothers are not unfrequently compelled, by the exigencies of circumstances, to direct the management of the family and oversee domestic matters during and immediately subsequent to confinement. Oftentimes a little boy or girl less than a dozen years of age performs nearly the sole task of nursing a sick mother. In such cases no amount of medicines will serve as a substitute for the rest and quiet and freedom from anxiety, which the needs

of the case may absolutely demand. The evils resulting from such exactions upon human endurance, from the want of things essential to the comfort of the patient, from the necessity of leaving the sick-bed too early, from taking up life's burdens when life itself is a burden, often afflict the patient through life. Thus is laid the foundation for a long train of ills that at best can only be palliated. When nurses are either unfaithful or incompetent; when in the home care of the sick those depended on are unfamiliar with sickness, ignorant of even the plainest principles of nursing, blind to the commonest wants of humanity and unskilled in rendering the simplest service—willing, it may be, to do, but never doing rightly, ever in their own or another's way, it becomes essential to success that the physician himself give special attention to the important details of nursing, not less than to the administration of drugs.

There are few physicians, I presume, who have not had reason to place an exceedingly low estimate upon the average intelligence of average people in matters pertaining to the management and care of the sick. The ignorance of common physiological processes and functions, among people who assume the responsibility of matrimony and maternity—people reasonably intelligent concerning almost everything else—is often so unspeakably absurd as to defy any attempts to render them more ridiculous by exaggeration.

How often is it found that, through want of intelligence and decision, important measures or details of treatment have been neglected—medicines not given because of some ill-judged fancy; treatment most explicitly directed has not been carried out; what was emphatically forbidden has been allowed—a convalescent permitted to indulge in unwholesome diet—an uneasy patient suffered to leave the bed and sit exposed to currents of air, causing, perhaps, serious relapse with its dangers and anxieties and nameless numberless hindrances and drawbacks to the patient's recovery. And with all these mishaps, for which the physician cannot reasonably be held accountable, he cannot wholly divest himself of all feeling of responsibility for occurrences beyond his control, nor can he wholly escape censure for the very mischances that compliance with his directions would have prevented.

In diseases of malarial origin, prudence will often dictate the wisdom of removal to a more healthful locality. Change of climate alone is sometimes all that is required. In some cases a certain degree of professional watchfulness and attention is demanded, such as can be rendered only in institutions where special provision is made for the particular class of cases. A measure of quiet is desirable, particularly in nervous affections—a degree of quiet unattainable in some localities, and in some families naturally noisy, with whose conception of

quietude the ringing of bells and sounding of gongs is not incompatible.

Whatever the conditions, the patient should be rendered as comfortable as possible under the circumstances. The important considerations of light, heat and ventilation, should be carefully attended to. The universal tendency to keep the sick chamber too warm can be remedied only by insisting that the temperature of the apartment shall be regulated in accordance with the indications of the thermometer, which is as indispensable in the sick room, and should be consulted no less regularly, than is the time-piece which indicates when the medicines are to be given.

It is not always easy to secure proper ventilation. Dwellings are constructed with almost studied disregard of any proper method of admitting fresh air, and permitting the escape of the foul. I do not mean to say that there is any lack of *systems* of ventilation. We have all studied the plates, beautifully colored, showing the equable diffusion of warm air throughout an apartment, while the impure air with the carbonic dioxide seems instinctively to retreat to the proper point of escape, all theoretically beautiful and promising, but, as we well know, practically worthless. There is yet room for the invention of a system of heating and ventilation, applicable to halls, churches and private dwellings, which shall combine utility with a reasonable outlay of money.

Many people seem to be afraid of pure air, or deem it allowable only for persons vigorous and healthy; and hence so many sick rooms are almost hermetically sealed; thus compelling nurses, attendants and patients, to breathe the air foul with the emanations inevitably present. Assuredly if anybody needs wholesome air without stint or restriction, it is the sick, and proper measures should be enforced for securing an abundant supply.

Cleanliness of the patient as well as of the clothing, bedding, room and all things pertaining thereto should be scrupulously enforced. When detergents have been faithfully used, disinfectants may be properly and discreetly employed. They should be used for a legitimate purpose, and not, as is too often the case, merely to substitute one vile smell for another.

Happily we have overcome that inhuman phase of hydrophobia of the recent past, which so sedulously guarded the sick from all access to water. What though the patient, burning with fever, begged for water to quench his raging thirst and cool his parched tongue. There were none so reckless of dreaded consequences as to offer him what nature so urgently demanded. With what an expression of horror would those whose resources in such cases lay in the use of the lancet, have stood aghast at the bare suggestion of plunging the patient with blood at fever heat into a cold bath to reduce his temperature.

While there are few diseases that can be certainly cured by any known remedies, it by no means follows that the administration of medicines is a matter of little consequence. Nor is it a matter of indifference whether or not they be regularly given at stated times. If the prescriber determine the quantity and the frequency of administration with clear knowledge of the energy and duration of action and rapidity of elimination; with cognizance that there is a therapeutical as well as physiological consideration in the administration of drugs; if he intelligently orders them for the purpose of producing certain definite results, it is important that all his directions as to time and mode of giving be strictly followed. Every one must have noticed the singular obliquity of perception so prevalent, deeming the kind and quantity to be given of less consequence than the intervals of administration. For example: Patients frequently try to refresh your memory respecting what was ordered at a certain time, not by describing the action or the physical properties of the drug, but by stating emphatically that "it was to be given once in so many hours."

It is often asked, "Shall we waken the patient to give him his medicine?" In some special instances of extreme exhaustion it may be necessary, in order to sustain through a critical period; but, in general, no. Sleep itself is a sovereign remedy.

> "Tired Nature's sweet restorer, balmy sleep;
> Sleep, that knits up the ravel'd sleeve of care,
> The death of each day's life, sore labor's bath,
> Balm of hurt minds, Great Nature's second course,
> Chief nourisher in life's feast."

It is often said, and with some degree of truth, that we are a nation of dyspeptics. Men, women and children, are painfully conscious of the possession and urgent claims of that quasi-vital organ, the stomach. Babes are born with rebellious stomachs, as surely inherited as are the peculiar lineaments and characteristics of their ancestors. It is usually only a question of time how soon the pernicious modes of feeding the young, and the unwisdom manifested in cooking and preparing food for maturer years, will develop the latent tendency into an acute disease. I am not sure but the custom of those who term all obscure affections of early life "Gastric Fever," is based upon something more substantial than mere caprice. How great a portion of the least alarming yet most profitable practice is the legitimate outgrowth of disordered digestion. When the patient consults you for stomach derangement he wants not advice, but medicine—not suggestions to regulate his habits and restrain his appetite, but something to *take* that will give perceptible relief while he continues to disregard the plainest principles of dietetics.

The minor derangements of the digestive tract are largely subject to domestic treatment. Bi-carbonate of sodium, charcoal, magnesia, mustard seed, with the unlimited guzzling of bitter and saline waters, are easy steps towards the more pretentious medico-domestic artificial aids to digestion, whose name is *legion*. So familiar to our eyes that we scarcely stop to note them, are such names as pepsina porci, peptodyn, peptonized beef tonic, carbonized fresh meat, saccharated pepsin, vinum pepsin, lacto-peptine, lacto-pepticum, lacto-peptic neuro-pabulum, lacto-phosphates of various kinds, imperial granum, malt extract with pepsin, pancreatine, diastase, digerentia, ingluvin from the ventriculus callosus gallinaceus, together with an endless array of "Foods," distinguished usually by the name of the inventor, discoverer or proprietor. Peculiar malignity seems to have been manifested in the "murder of the innocents" through the multitude of "Baby Foods" thrust before the public, by the liberal display of catch-pictures and printers' ink; each accompanied with the inevitable certificate of analysis by Prof. Quidproquo, vouching for the presence of everything essential to nutrition and the absence of anything deleterious. How many young lives have been sacrificed in demonstrating the utter worthlessness of scores of these preparations, not even the mathematical ability of the registrar of vital statistics can accurately determine. Of course I do not presume to intimate that these preparations are all worthless; but when the intelligent advocate of any one of them proceeds with deliberate coolness to practically dissect the claims, and demonstrate the comparative, if not the utter, worthlessness of all but his, the inquiring mind is led to suspect whether there may not be considerable truth in what all these parties say of each other. It is to be hoped, if not expected, that ere long there will be a healthful reaction in regard to the assumed need of *aids* to digestion; and that, as regards "Baby Foods," the greater portion of them will, in due time, be consigned to merited oblivion.

Perhaps the most troublesome dyspeptics are the chronic, well-read dyspeptics, whose researches are usually wider than those of the average physician, who have read extensively in regard to the functions of the stomach, and the significance of the various subjective symptoms; have Carpenter and Pary by heart, Chambers on Indigestion at their tongue's end, are familiar with the experiments of Beaumont and others, and can tell you just where in the scale of digestible articles each stands—are always taking medicines, often finding just the right one, only to discard it as soon as the system becomes tolerant of it or its novelty wears off—are, in fact, always curing themselves, but, alas, they are never quite cured. No physician with half a dozen such patients on his list need ever complain that business is dull.

In diet, as in other things, customs change. Old-fashioned beef-tea, long at the head of the list, as very generally made becomes the victim of grave doubt.

Milk, formerly charged with causing biliousness and promoting fevers, now takes high rank as an article of diet. Its value I had supposed to be unquestioned, until I saw recently, in a journal ostensibly devoted to Popular Health, an objection so striking that I reproduce it. In answer to a correspondent the astute editor writes: "Milk is not digestible; for (and here comes in the syllogism) food, to be readily digested, must be masticated; milk cannot be masticated, and is therefore indigestible." Were this an isolated case of violence to common sense it would scarcely be worth noticing, but it is a not rare specimen of the medico-scientific pap with which the credulous public is quite too extensively fed.

In the matter of sustenance, the wants of each particular case must be determined by the special conditions present. What is proper for one person may not be for another; what is wholesome for people in health, is by no means necessarily so for the sick, with functions deranged and secretions disordered.

It is far from my purpose, however, to enter upon the consideration of the subject of diet, save only to call attention to its importance in the treatment of the sick. It is well believed that cholera-infantum and entero-colitis, those great summer scourges of large cities, are attributable more to improper diet than to all other causes combined. In this relation the language of J. Lewis Smith is both terse and to the point. He says: "The physician should, therefore, be as familiar with dietetic as he is with medicinal formulæ, that he may use them as occasions arise."

The particular discussion of relative food-values I leave to those whose greater ability and more extended research and experiment specially fit them to deal with this important subject.

It is the aim of this rambling paper to make some brief suggestions in regard to a few minor points in practice, but, more particularly, to emphasize what the title of the paper obviously assumes; viz., that good nursing is of primary importance in the successful treatment of the sick; and, further, that it is within the province of the physician to oversee, if he does not practically supervise and direct, in the various essential details which are usually recognized as belonging to the exclusive sphere of the nurse.

COMPOUND RHUBARB MIXTURE.

At the Brooklyn Eye and Ear Hospital the following combination is found very useful:

		In each teaspoonful.
Take Ext. Rhei fl. (Squibb's)	256 minims	1 minim.
Ext. Ipecac. fl. (Squibb's)	51 "	$\frac{1}{5}$ "
Sodæ bicarb.	512 grains	2 grains.
Glycerinæ	12 ʒ	$\frac{2}{5}$ ʒ
Aquæ menthæ pip. ad	2 pints	$\frac{2}{5}$ ʒ, nearly.

Mix. Dose, one-half to one teaspoonful two or three times a day.

It is prepared for the Hospital by Dr. Squibb. The fluid extracts used represent grain to the minim, so that each fluid drachm contains one grain of the best rhubarb and one-fifth grain of ipecac. (The difficulty of getting good rhubarb in ordinary prescriptions is well known.)

The above combination is used largely for children whose stomachs and bowels are out of order, where there may be a question whether a slight mercurial would not do well. It has an alterative action, and in this way is truly a tonic. Adults also receive it. It is easily taken, keeps indefinitely, has the great advantage over the aromatic syrup of containing no sugar to ferment in the patient's stomach (the glycerine tending strongly in the other direction), and the further advantage of the small dose of ipecac, equal to two or three drops of the wine, and the alkali. Quinine may be added to it, in which case the fluid extract of liquorice should be used to cover its taste; or, what is better than the quinine, the compound fluid extract of calisaya, as made by Dr. Squibb.

A Case.—Some weeks ago the writer saw the child of Dr. J. M., a member of this Society. She had phlyctenular conjunctivitis, the bowels and nutrition somewhat out of order. This *compound rhubarb mixture*, as it may be called, was given. Recently the doctor tells me whenever there is the slightest symptom of a return of the eye disease, he gives a dose or two of the mixture, and all goes well again.

It might be proper to suggest it to the Pharmacopœia makers.

D.

——A medieval physician, Ericus Cordus, wrote these lines concerning the ingratitude of his patients:

Tres medicus facies habet; unam quando rogatur,
Angelicam; mox est, cum juvat ipse, Deus.
Post ubi curato, poscit sua præmia morbo,
Horridus apparet, terribilisque Sathan.

Χαρμα μέγ' ανθρωποισι, κακων δηλητῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——The Proceedings has had many a friendly word. It seems to have contributed not a little to the advantage of the Society and the interest of individual members. It has, in part, repaid the labor that has been spent in the preparation of papers, by giving them a wide circulation, and it has been of benefit and interest to the many members who, from various causes, are detained from regular attendance on the meetings of the Society. Spite of the fact that was statistically ascertained, that the Society presents a larger average attendance at its meetings than any similar medical organization in the country, the gathering at the July meeting has had no parallel in the long history of the Society; and this with the thermometer among the nineties, and the conveyances to Coney Island within jumping distance of every man's door. It is fair to presume that this enthusiasm, which bade defiance to the summer heat, animated the spirit of those who could not be present in body; and to this constituency The Proceedings sends its midsummer greetings, as it rounds out its fifth half-year.

——New Fracture Dressing.—At the last meeting of the Society, Dr. Wackerhagen presented a new supporting material for fractured bones. It is prepared from plaster of Paris, shellac, glue and flannel. When soaked in hot water, it becomes soft and flexible in about two minutes, and can be readily moulded to the contour of the injured limbs. It is applied over cotton wadding, and will become hard and supporting in five minutes after the application of the roller. Dr. W. believes it to be superior to anything of the kind now in use, because of its lightness, the short time it requires to become hard and supporting, and the low price, when compared with felt or gutta-percha. It is prepared by Tiemann & Co. Dr. W. has left samples at the Rooms for inspection.

——Preventive Medicine.—A nervous lady from Boston, three months pregnant, for the first time, visiting, a few weeks since, with her husband, some friends in one of the river towns, having the possibility of a miscarriage before her eyes, excited the anxiety of her hostess lest

she should be taken sick on her hands, and so delay a trip to the sea-side. A physician of the town was interviewed by the resident lady, and summoned to the visitor, who, after the formal investigation, closeted with the husband in the recesses of the withdrawing room, thus effected the desired result: "My dear sir, your wife is threatened with a miscarriage. She is so delicately constituted, that, were it to occur under my care, I could not allow her to pass from my supervision for at least two months. I can, however, give her some very powerful medicines (without injuring her) that will restrain the accident until you get to Boston, provided you start this afternoon." They started. The miscarriage has been deferred. It is to be hoped that the proper honorarium was offered by both parties.

——Dr. Skene has made some experiments with the microphone in the detection of the fœtus in utero, and is satisfied that the instrument can be made useful in the diagnosis of pregnancy, and also in the detection of uterine fibroids and other morbid growths.

——Members of the Society who contemplate presenting papers the coming fall and winter, will oblige the President by communicating with him as soon as practicable.

——An Ethical Parable.—Once upon a time, in this city, there dwelt a man of good means, who habitually shirked his doctor's bills. He always gave his family the benefit of the best medical attention he could obtain; but it was necessary for him to rotate considerably, as one physician after another became weary of doing his work for nothing. In the course of his travels, one day, he dropped into the office of the late Dr. M. The doctor had learned the reputation of the man, and frankly told him that he was a bad egg, that he did not pay his bills, and that, in fine, he would not attend him medically. "But my child is sick," says the man, and taking a roll of money from his pocket, "and I will pay your fee in advance." Then replied Dr. M., "But that money is not yours to pay away; it belongs to Drs. A. and B., whose bills you have never paid. Go to these doctors, pay your bills, and one of them, no doubt, will look after your sick child." And that man departed with new ideas concerning the ownership of his roll of bills and the rights of physicians.

——Sir John Simon.—This eminent hygienist, by many regarded as the greatest living sanitarian, is to be honored by a bronze bust testimonial, by the British Social Science Association. No man more worthy of honor than Mr. Simon. His American admirers will be glad to learn that subscriptions to the fund, of two guineas or more, entitle the contributors to a small copy in plaster of the bust, by Woolner.

——The Cold Stage in Cholera Infantum.—Dr. E. F. Wells, of Ohio, regards cholera infantum as a self-limited disease, with a duration of three days. If the child can be tided over those three days, and reaction then takes place, he will generally recover. Therefore efforts must be directed to sustain the powers of life, restore lost tissues, maintain the body-heat and bring about reaction. To effect this, he says, no agent is so certain as the mustard pack. Dr. W. protests against the too common practice of dragging, as during the algid stage the digestion of medicines is totally impossible.—*Cincinnati Lancet and Observer, Practitioner*, April.

——Appetite and Cerebration need not coincide, if the case of Mr. F. A. Edison may be taken as proof. That prolific inventor is said to utterly despise the pleasures of the table, and to regard as lost time all the time which he is compelled to give to eating.

——Viscum Album, or mistletoe, is recommended as a substitute for ergot as a promoter of uterine contraction. Dr. Long, of Louisville, believes that *viscum* is superior to ergot in promptness, certainty, efficiency, and continuous contraction.—*Med. News.*

——Scarlatinoid Eruption in Ague.—Drs. Cheadle and Handfield Jones report cases in the *British Medical Journal*, April 13th, 27th, of a scarlatina-like rash in young children affected with ague. In some cases the eruption is quite general; and often it suggests roseola, rather than scarlatina. The temperature may exceed 105°, and may be attended with sore throat. In such cases the diagnosis may for a time be doubtful; but the rash has a fluctuating tendency that suggests malarial periodicity.

——Painless Dentistry.—Dr. Weil, of Munich, extracts teeth that require to be "filled" with gold or amalgam—using an anæsthetic—and when properly grouped out and filled, replaces them. He states that they become firmly fixed, and can be freely used after about three weeks. He keeps the tooth out an hour or more, if necessary.—*Lancet*, April 20th.

——Publications Received:

The Present State of the Pathology of Cancerous and Tuberculous. By J. Hilgard Tyndale, M.D., of N. Y. City.

Amputations and Excisions of the Cervix Uteri—their Indications and Methods. By J. Byrne, M.D., M.R.C.S.E., of Brooklyn, N. Y.

On Lying-in Institutions, especially those in New York. By H. J. Garrigues, A.M., M.D., of Brooklyn, N. Y.

Fluid Extracts by Repercolation. By E. R. Squibb, M.D., of Brooklyn, N. Y.

Certain Symptoms of Nervous Exhaustion. By G. M. Beard, M.D., of Brooklyn, N. Y.

A Case of Ataxia in a Child. By J. C. Shaw, M.D., of Brooklyn, N. Y.

The Intra-venous Injection of Milk as a substitute for the Transfusion of Blood—illustrated by Seven Operations. By T. G. Thomas, M.D., of N. Y. City.

Comparison of the Results of the Cæsarian Section and Laparo-Elytrotomy in New York. By T. G. Thomas, M.D., of N. Y. City.

Laparo-Elytrotomy, a Substitute for the Cæsarian Section. By T. G. Thomas, of N. Y. City.

The Pith of the Dried Corn-Stalk as a Uterine Tent, and general remarks upon the use of Uterine Tents in Gynæcological Fracture, with cases. By W. T. Goldsmith, M.D., Atlanta, Ga.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The August meeting will be held on the 20th, at which time the following papers will be presented:

A report of five cases of Hyperpyrexia treated by the Cold Bath. By Dr. F. B. Green.

A Case with Aphasia and Amaurosis. By Dr. A. R. Matheson.

Prognosis of Tumor of the Testicle. By Dr. P. L. Schenck.

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(1878 to 1882.)

Drs. J. C. Shaw, S. G. Armor, R. M. Wyckoff, Drs. A. C. J. Skene, G. G. Hopkins, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

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HYGIENE.

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Drs. C. H. Giberson, W. E. Griffiths, J. A. Jenkins, Drs. W. G. Russell, N. Matson, F. W. Rockwell. Drs. R. M. Buell, R. W. Wyckoff,

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Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

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PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, AUGUST 20, 1878.

A REPORT OF FIVE CASES OF HYPERPYREXIA TREATED BY THE COLD BATH.

BY F. B. GREEN, M. D.

The following cases came under my observation during my term of service in the Roosevelt Hospital; as the treatment pursued is one not much in use at present, I have thought a report of the cases might be of interest.

CASE I.

Wm. De F., æt. 22, was admitted March 20th, 1875, suffering from acute articular rheumatism. His previous history states: He was perfectly well up to six days ago; at that time he was seized by pain and swelling of both ankle-joints; this next invaded the knee-joints, and later very slightly affected both hips. For the past six days he has suffered from fever, sleeplessness and restlessness; his appetite has remained good, his bowels have been regular.

Upon admission, patient was found to be a well-built, well-nourished, robust man. He complained only of pain in the affected joints. Pulse, 118; temp., 103°.

Treated by hypodermic injections of atropia, one one-hundredth of a grain, t. i. d. Nothing noticeable occurred in the case till March 25th, five days after admission. On that date the nurse stated that the patient had been very delirious all night. Examination revealed the fact that

during the night the swelling and tenderness of the affected joints had entirely disappeared; the patient was still slightly delirious, and there was some subsultus tendinum. Pulse, 90; temp., 104½°. At 4 P. M. the patient was again seen; sordes were found on teeth and lips, delirium was active and increasing; subsultus violent, jactitation marked. Temp., 106½°. Was immediately placed in an iced pack. At the expiration of an hour his temperature had risen to 107⅕°; pulse, 172. Was at once placed in a bath with a temperature of 80°, and the water rapidly cooled to 60°. Time in bath, eleven minutes; temperature after bath, 99⅓°. Two hours later, 8 P. M., temperature had again risen to 105½°. Given a bath of ten minutes; temp. after bath, 99°.

At 10.30 P. M., temp. 105¾°. Given a bath of ten minutes; temp. after bath, 99½°.

March 26th: Temperature at 2 A. M., 106¼°; pulse, 116. Given a bath of five minutes; temperature after bath, 100°. 4.15 A. M., temp. 105°; bath ten minutes; temp. after bath, 99½°.

7.15 A. M., temp., 105°. bath ten minutes; temp. after bath, 99°.

11.30 A. M., temp., 105¼°; pulse, 150; bath ten minutes; temp. after bath, 97¾°; pulse, 132.

3.10 P. M , temp., 104¾°; bath six minutes; temp. after bath, 100¾°.

8 P. M., temp., 105°; pulse, 150; bath four minutes; temp. after bath, 101½°; pulse, 132.

March 27th: Temp. at 12.15 A. M., 105°; bath five minutes; temp. after bath, 101¼°.

7.30 A. M., temp., 104°; placed in iced "pack" for twenty minutes; temp. after "pack," 102¼°.

2 P. M., temperature had risen to 103⅓°; it fell, however, without interference, and stood next morning at 102°.

From this patient passed on to a good recovery, and was discharged from the hospital May 5th.

It was noticed that the patient objected very strongly to the first two baths, kicking and plunging about so vigorously that the efforts of three men were required to hold him quiet. After this he began to enjoy the bath, and kept the other patients awake by calling for the doctors to come and give him a bath, whenever he became uncomfortably hot. After the fourth bath was given spts. frumenti, one ounce every hour. After the sixth bath, became much quieter; the delirium almost disappeared, and the subsultus was very slight. After the tenth bath, had three hours' quiet sleep.

On the morning of March 28th, the day following the last bath, swelling and tenderness returned to the joints previously affected. These inflammatory symptoms again disappeared on the 31st of March. From

this time recovery was gradual. I have seen Mr. De F. twice since his discharge, and found him feeling strong and well. He has a slight mitral murmur.

CASE II.

Michael M., æt. 40, was admitted July 6th, 1875, suffering from insolation. He gave this history: Three days ago, after working exposed to the sun all day, was seized at night by an attack of vomiting and purging. Was unable to return to work the next day, and has since been growing steadily worse. Upon admission, patient was found to be a strong, well-nourished man, weighing 190 pounds. He was suffering from complete anorexia and slight diarrhœa; his tongue was thickly coated with brown fur. Pulse, 135; temperature in rectum, 107½°.

Patient was immediately stripped and placed on a marble slab. The cold douche was applied to his body and iced water poured on his head.

11.15 A. M., after the douche had been used for twenty minutes, temperature had risen to 107⅞°.

11.18 A. M., placed in a bath, temperature of water, 70°. One hundred and fifty pounds of ice cracked fine and thrown in the bath; iced water was again poured on his head, and he was given spts. vini gallici, two ounces, and quin sulph., twelve grains. At the expiration of a half hour the temperature of the water had fallen to 55°. Patient was removed from the bath, iced bandages applied to his head, mustard to his abdomen, hot bottles to his feet. Temperature on removal from the bath was, in the rectum, 107°; in the axilla, 104°.

12 M., began the hypodermic use of Lent's Solution of Quin. Sulph., giving six grains every hour.

12.26 P. M., thirty-eight minutes after removal from the bath, temperature was 108¾° in the rectum; 106° in the axilla; pulse, 122, full and strong.

3 P. M., temperature, 105° in the rectum; Lent's Solution discontinued.

4.30 P. M., diaphoresis active, patient sleeping, but easily aroused; complains when awake of frontal headache. Temperature in the rectum, 103°.

6 P. M., rectal temperature, 102½°.

Three days later, July 9th, was up and about the ward. He stated that he remembered nothing of what transpired from the time he left home till he awoke in the hospital, twenty-four hours after admission. From this date onward he steadily improved, and was discharged cured, July 13th, eight days after admission.

This case also objected at first to the bath; but after a few moments he became quiet and was strongly opposed to his removal from the

water, though at that time it was noticeably cool, being 55°. The bath was not repeated when his temperature again rose, because he seemed quiet and sleepy, and it was thought better to let him sleep, watching for any new symptom that might arise. The result justified this decision.

Case III.

Henry G., æt. 27, was admitted May 8th, 1875, suffering from peri and endo-carditis. The following history was obtained: Four years ago, during the "Chicago fire," patient jumped from the window of a burning building; he was picked up unconscious, and remained ill for four weeks. Two years ago he was attacked by a severe frontal headache, followed by delirium, and was ill in bed for three weeks. These attacks have since been repeated. Gives no history of dyspnœa, cardiac palpitation, cough or pain; complains of absolutely nothing, and seems to be but semi-conscious. Patient's wife stated that he was starving, and investigation at his home revealed the fact that he had eaten nothing for five days.

Upon admission, patient was found emaciated, with haggard countenance and anxious manner. Pulse, 120; temperature, 105°. The treatment at once begun consisted of whisky, an ounce an hour; carbonate of ammonia, ten grains every two hours, and all the milk patient could digest.

6 P. M., temperature remaining at 105°, he was placed in an iced "pack" for two hours; temperature after the "pack," 104°.

8.45 P. M., temperature, 104½°; given a bath of five minutes; temperature after bath, 102½°; fifteen minutes after bath, 101°; forty-five minutes after, 101°.

11 P. M., temperature, 104°; pulse, 114; given a bath of four minutes; temperature after bath, 101°; pulse, 128.

May 9th: Temperature at 1.45 A. M., 104°; pulse, 140; given a bath of five minutes; temperature after bath, 102½°; forty-five minutes after, 101°.

7 A. M., temperature, 104°; pulse, 128; bath of seven minutes; temperature after bath, 102°; pulse, 120; twenty minutes after, temperature, 101°; forty-five minutes after, 99½°.

12 M., temperature, 104½°; pulse, 120; given a bath of five minutes; temperature after bath, 102°; pulse, 124; forty-five minutes later, temperature, 101¾°.

3 P. M., temperature, 104°; pulse, 130; bath of five minutes; temperature after bath, 102°; pulse, 135.

6 P. M., temperature, 104½°; given bath of five minutes; temperature after bath, 102¼°; thirty minutes later, 100°.

12 P. M., temperature, 104¼°; pulse, 160; placed in an iced "pack" for an hour and a half; temperature after "pack," 101°; pulse, 120.

May 10th: Temperature at 9.30 A. M., 104¼°; pulse, 150; placed in an iced "pack" for one hour; temperature after "pack," 102½°; pulse, 130.

12.30 P. M., temperature, 104½°; pulse, 144; given a bath of three minutes; temperature after bath, 102°; pulse, 140; thirty minutes later, temperature, 101¼°; pulse, 130.

4.15 P. M., temperature, 105°; pulse, 152; given a bath of six minutes; temperature after bath, 102½°; pulse, 136; temperature then fell in one hour to 100°.

10 P. M., temperature, 106°; pulse, 144; placed in an iced "pack" for one hour; temperature after pack, 101°; pulse, 130; thirty minutes later, temperature, 99°; pulse, 130.

May 11th: Temperature at 4 A. M., 104°; pulse, 144; given a bath of four minutes; temperature after bath, 103°; pulse, 132; thirty minutes later, temperature, 100½°; pulse, 128.

8 A. M., temperature, 105°; pulse, 142; placed in an iced "pack" for an hour and a half; temperature after "pack," 103°; pulse, 132.

1.30 P. M., patient died.

Again we have the patient objecting to the bath; but, unlike the preceding cases, these objections continued, the patient becoming more and more demonstrative at each succeeding application of cold, begging to be let alone. Another noticeable feature in this case is the continued fall of temperature after removal from the bath; this after-fall was repeated in every instance, a half and sometimes an hour elapsing before the temperature again began to rise. Finally, in this case, after each bath, the skin and mucous membranes presented a blanched and bloodless appearance, and the face became almost cadaveric in appearance.

Case IV.

John G., æt. 55, was admitted Dec. 13th, 1875, suffering from pneumonitis. The following history was obtained: Patient, whose occupation is that of a sailor, arrived in this port two months ago from Hong Kong. Since his arrival, he has been living in a sailors' boarding-house, obtaining a poor quality and insufficient quantity of food, and has been drinking heavily.

Four days ago, after a protracted debauch, he awoke from a night's sleep on the sidewalk, as he says, "half frozen." Since that time he has been troubled by a slight cough, pain in the right chest, and severe headache.

Upon admission, patient was found fairly nourished; loss of appetite complete; pulse, 94; temperature, 104°.

Patient was placed on a nourishing diet; stimulants were not given; he continued to grow steadily worse, losing flesh and strength daily. On December 17th, four days after admission, temperature had risen to $105\frac{3}{4}°$.

3 P. M., given a bath of ten minutes; temperature of water, 80°; temperature of water on removal, 74°; patient's temperature after bath, 103°; twenty minutes later, $101\frac{1}{2}°$.

5 P. M., temperature, 105°; given bath of ten minutes; temperature after bath, $102\frac{1}{4}°$; thirty minutes later, 99°.

7 P. M., temperature, $106\frac{1}{2}°$; given a bath of ten minutes; temperature after bath, 103°; forty-five minutes later, 99°.

Dec. 18th: Patient died at 11 A. M.

Again we have the patient objecting to the use of the bath, these objections growing stronger at each bath; again we have the shriveled skin and shrunken face, with every indication of collapse following the baths; again we have the temperature falling from one and a half to four degrees after removal from the bath, before reaction takes place; and, finally, again we have these symptoms passing on to culminate in death.

Case V.

Henry L., æt. 27, was admitted Dec. 25th, 1875, suffering from typhoid fever. The following history was obtained: After several days' suffering from general malaise, chilliness, sleeplessness, nausea, diarrhœa, etc., patient was compelled to go to bed one week before admission.

Upon admission, he was found poorly nourished, loss of appetite complete; some diarrhœa, tongue dry, coated brown and fissured; temperature, 105°; pulse, 100. A lenticular eruption, disappearing on pressure, was found on the chest, back and abdomen; pain and gurgling in the right iliac fossa. Patient was treated for the diarrhœa with pepsin and morphine; given six quarts of milk a day, and sponged with ice-water every evening.

For the next five days, patient's condition remained about the same. On Dec. 30th, five days after admission, and twelve days after patient had gone to bed, he was ordered the bath three times each evening.

Dec. 30th: Temperature at 4 P. M., 105°; given a bath of ten minutes; temperature of water, 88°; lowered to 80°; patient's temperature on removal, $103\frac{1}{8}°$; one hour later, $102\frac{3}{8}°$; seemed to be thoroughly chilled, and remained so for some time.

6 P. M., temperature, $104\frac{1}{4}°$; pulse, 100; given a bath of ten minutes;

temperature of water, 100°: lowered to 80°: patient's temperature after removal, 103°.

8 P. M., temperature, 105½°: bath ten minutes: patient's temperature after bath, 103½°: forty-five minutes later, 102°. After this, patient dropped into a sleep, which was disturbed by low muttering delirium.

Dec. 31st: Temperature at 4 P. M., 105°: given a bath of ten minutes: temperature of water, 100°: lowered to 80°: patient's temperature on removal, 103½°.

6 P. M., temperature, 105½°: bath ten minutes: temperature after bath, 104°: one hour later, 103°.

8 P. M., temperature, 105°: bath ten minutes: temperature after bath, 104°: one hour after, 102°. So great was the patient's exhaustion after the third bath, that stimulants, which had been commenced in light quantities yesterday, were pushed to half an ounce every two hours.

Jan. 2d: After omitting the bath for one day, commenced again, and gave a bath at 4 P. M., 6 P. M., and 8 P. M., reducing his temperature at each bath from one to two degrees.

Jan. 3d: Gave baths at 4 P. M. and 7 P. M.

Jan. 6th: Temperature at 4 P. M., 106°: given a bath of ten minutes: temperature after bath, 104°: one hour later, 101°.

8 P. M., temperature, 106°: bath of ten minutes: temperature after bath, 104°: one hour after, 100°.

The patient seemed so thoroughly chilled and weakened by these baths, that it was decided to abandon them. Exhaustion in this case could hardly follow the exertion of being moved, as a movable bath-tub was placed by the side of the bed, and he was lifted into and from the bath with the greatest care.

Jan. 9th: Early in the day began to vomit his whisky and milk: this continued at intervals all day. At 10.15 P. M., patient died.

Let us review these cases, and group together the conditions of the patients and the effects of the treatment. We notice in the first two cases, the cases ending in recovery, a robust physical condition: both are well-nourished, both well-fed, both receiving wages for labor, both stricken with acute diseases—a better condition for treatment by measures directly applied to the reduction of temperature cannot be imagined. Both complained when first put in the bath: this is perfectly natural. The sudden immersion with a temperature of 105° or 107° in a bath of which the temperature is 80°, is a most violent shock, and under the impression of that shock complaints were made; but soon a relief came, and we notice both patients enjoying the water, one crying out for the doctors to give him another bath whenever his temperature rose, the other objecting seriously to his removal from the bath.

Another point is noticeable: these did not evince, by the appearance of the skin, symptoms of exhaustion; instead of finding the cutaneous covering blanched, shriveled and cold, there appeared on drying the skin a pinkish blush, and it felt firm and healthy.

As regards the effect of the bath on temperature, we find it falling as much as 7°; but we have no further fall; immediately, and by that I mean from within five to fifteen minutes, the temperature again begins to rise. We have, then, in these cases a resemblance to the effect of the cold bath on a person in health. The first shock, the succeeding pleasurable stage, the final reaction—a slight reduction of temperature at first, followed by a slight increase.

Turning to the other cases, we find one a long time resident in a tenement house, another a resident in a sailors' boarding-house; certainly in looking for specimens of physiological health, we would not visit such residents. But besides this, one had been without solid food for several days, the other had been on a protracted debauch; both on admission were emaciated and weak; both had been poorly fed and housed; both were out of work, and mental anxiety was added to physical exhaustion.

In the third case, however well and strong the patient may have been previous to his illness, he had been confined to bed for a week previous to his admission by a continued exhausting fever; he, too, on admission was emaciated and weak, with almost complete loss of appetite, and five days more of this wasting fever followed before the bath was used.

We have observed the effect of the bath on a healthy person, only carried to the extent of acting as a tonic; let us carry it beyond this stage, and see the result. From a condition of congestion, the skin passes to a condition of anæmia, and becomes shriveled and shrunken, assuming the appearance known as "goose-flesh," the muscles tremble, the teeth chatter, the flesh under the nails turns bluish in color, and a sense of exhaustion comes on. If the bath be discontinued now, the bather feels weak, he is afflicted with vertigo, it may be so severely as to fall, unless supported. His intellectual faculties are blunted, and he is rendered incapable of exertion, mental or physical. The stage of reaction arrives very slowly, unless aided by stimulants; and even with the aid of stimulants, the bather does not fully recover his accustomed vigor until after a sleep.

These depressing effects produced by a long-continued bath on a healthy person are produced in an even more marked degree by the brief immersion of an exhausted patient; and the reaction, which comes so slowly in health, comes more slowly, if it comes at all, in disease.

Hence we have in all the fatal cases after a bath, even though the duration of that bath be but four or five minutes, a depressed condition; and this depression, instead of ceasing on the patient's removal from the water, continues, as evinced by the continued fall of temperature, for fifteen or twenty minutes after removal.

As to the prognosis of treatment by means of the bath, as judged by these cases, I submit the following views :

Given a case of acute disease, not of itself necessarily fatal, in a person previously in good health, in which the temperature points to a fatal termination unless reduced, I should advise the bath. If, as a result of the bath, I should find the patient comfortable in feeling, his temperature after removal ceasing to fall, and perhaps immediately beginning to rise, his general condition showing speedy reaction, I should advise a repetition of the bath as often as necessary, and make a favorable prognosis.

If, on the contrary, the patient should be one whose past indicated mental or physical exhaustion, or both —who had been poorly nourished, or who was suffering from a long-continued disease—I should hesitate long and use all other means, before advising a bath to reduce his temperature; if the bath became an absolute necessity, I should give it with great caution; if, as a result of the bath, the condition of the patient should be markedly depressed, and this depression should continue after removal from the bath, the thermometer showing a fall of from one-half to one degree of temperature before beginning to rise—if, further, the patient showed a dread of a repetition and became excited at the thought of future discomfort, and if these symptoms were even more noticeably repeated after a second bath—I should prefer to abandon the treatment.

While I regret that in these cases the majority of results ended fatally, yet it is satisfactory to know that in each case the treatment pursued was believed to be for the greatest good of the patient. Looking back now, over two years from the time of treatment, the mistakes made can be more readily seen than at the time itself; and I report these cases, not without much hesitation, I grant, but certainly without a hesitation on account of the mortality; for we gain as much practical knowledge, both as individuals and societies, from our failures as from our successes.

A CASE WITH APHASIA AND AMAUROSIS.

BY A. R. MATHESON, M.D.

Mrs. R——y, aged 68 years, born in New York, the youngest of five children, all living excepting one, who died, at the age of 50 years, of Bright's disease. Her father died from being thrown accidentally from a carriage; her mother from some gastric disorder, at the advanced age of 74 years.

Mrs. R. is the mother of seven children, all living excepting one, who was drowned.

She had always enjoyed good health, having never required the services of a physician but in child-birth and during an attack of rheumatism about twenty years ago.

On the 10th of December, 1876, while attending to her household duties, she became suddenly speechless; I visited her soon afterwards, and found her suffering from complete amnesic aphasia. Her pupils appeared normal. There had been no loss of consciousness; she had not fallen, nor was there hemiplegia, nor interference with the normal movements of the lips, the tongue nor the larynx.

Her sight, hearing and smell were not affected, but her taste was somewhat vitiated.

Her face remained intelligent, yet anxious, as if dreading some fearful calamity. I had been her family physician for six years, and was fully convinced that it was not hysteria. I endeavored to make her converse, but her vocabulary was limited to two words, "Well" and "Sis."

In answer to all questions, and in her vain efforts to communicate with her family, she used the same words, "Well, well," "Sis, sis."

She seemed to realize the absurdity of applying these words indiscriminately to all things, and gave evidence of embarrassment and vexation.

We endeavored to have her write her thoughts, and although she had possessed a fair education, her attempt at writing was as futile as her attempt at speaking. The result was a miserable scrawl, without form or sense. The letters were incomplete in form, and bore no relation to one another. (The loss of the writing power from the loss of the memory of words was called by Ogle, Anemonemic Agraphia, and usually coexists with aphasia.

As she had once had an attack of rheumatism—I could not ascertain whether it was articular or muscular—I was particularly careful in exam-

ining her heart. I found no valvular nor other organic trouble. Dr. S. S. Purple, of New York, saw her subsequently in consultation with me, and I directed his attention to the condition of the heart, and after carefully examining it, he confirmed my previous diagnosis. She continued in this condition about three months, when she began gradually to recover her memory of words. It was hard work at first. Her family had to anticipate her thoughts, and gently lead her word by word. She would repeat the words, when correct, with evident satisfaction, and has so far recovered as to converse with but little hesitancy in securing the proper words. She has enjoyed her usual good health up to the present time; has had a good appetite, slept well, and manifested no other indications either of physical or mental debility.

On the 5th of April last (1878), while walking across the room, her sight suddenly left her, and she was obliged to call her daughter to lead her to a seat. I visited her soon afterwards, and found her very much depressed in spirits. Her *iron will* seemed to succumb to her terrible affliction; but she soon regained her self-possession, and informed me that she had no premonitory symptoms, and was preparing to go out walking when she suddenly became blind.

I cauld not discern any change in the pupils; they may have been slightly dilated, but not to any considerable extent. Dr. Arthur Mathewson saw her some time afterwards, and made a very thorough ophthalmoscopic examination. The fundus was normal; no change had yet occurred in the vessels or disk, showing that the suspension of vision was due to causes entirely intracranial.

At the present time (August) her sight is returning; she can distinguish objects passing between her and the light. There are some points in this case especially interesting, viz.:

Aphasia and amaurosis occurring with an interval between them of sixteen months, and without hemiplegia, anæsthesia or hyperæsthesia, and a gradual improvement after the third month.

What was the cause that produced those symptoms? Was it embolism? Embolism implies, usually, the existence of cardiac disease or the formation of a thrombus in the heart. In this case there is no cardiac disease represented by physical signs. Embolism may occur at any period of life, but more frequently in middle or early life.

Was it cerebral hemorrhage? There are usually premonitory symptoms. Thrombosis, tumor and abscess develop gradually.

The location of the lesion producing aphasia is still an open question; but the accumulation of evidence from collected cases goes to show that it may be "dependent upon any cause producing disorganization of, or pressure upon, the third frontal convolutions or parts imme-

diately adjacent," and that the left side is the seat of the disease in the proportion of 15 to 1. Brown Sequard takes a different view, and says, "There is certainly, as regards anæsthesia, as regards amaurosis, and as regards aphasia, evidence that any part of the brain can produce those symptoms; on the other hand, there is evidence that great masses of the brain on either side can be destroyed without any marked alteration either in sensibility, in power of sight, or in power of speech."—(*Brathwaite's Retrospect*, Part 75, page 95.) In the history of the case I have related, I lack the essential evidence of an autopsy to demonstrate the cause and locate the lesion that produced the aphasia and amaurosis; but the history I deemed to be of sufficient interest to warrant me in presenting it for consideration.

PROGNOSIS OF TUMORS OF THE TESTIS.

BY P. L. SCHENCK, M.D.

The following cases are here put on record as a contribution to the study of the effects of operations for the removal of tumors of the testicle.

W. F., Ireland, longshoreman, aged 45, was operated on, May 31st, 1877, by Dr. J. C. Hutchison, consulting surgeon. The affected organ was about four times its normal size, with the cord and several glands lying beside it also involved. In removing some of the latter, the peritoneum was exposed to view. The patient made a good recovery, and was discharged July 23d. No microscopic examination. There had been no return of the disease in October following, since which time the patient has not been heard from.

I. McD., U. S., no occupation, aged between 17 and 20. Operation by P. L. Schenck, February 28th, 1878. The right scrotum was pear-shaped, containing a tumor of the size of a cocoa-nut, in which no trace of testicle could be seen. Inside of the tumor was an ovoid cavity, containing six or eight ounces of straw-colored serous fluid. The thickest part of the tumor lay towards the median line of the body. The cord and adjacent glands were not involved, and there was no evidence that any other portion of the system was affected. Enucleation was readily effected, and the wound healed kindly and quickly. There was no return of the disease in the cicatrix, but at the end of three months there was

marked evidence of the return of the disease within the abdomen, with enlargement of glands near the cicatrix. The abdominal symptoms developed rapidly. Complete dullness in the right inguinal region, local tympanites, peritonitis of a sub-acute form, leaning forward when walking, and decubitus, indicated the necessity for relaxation of abdominal muscles for relief of pain. These symptoms, with great pain and emaciation, increased with great rapidity. He was discharged May 18th, 1878, at the request of his father, who desired that he should die at home.

Microscopic examination of the tumor, as reported by the Committee of the Pathological Society, showed the tumor to be a round-celled sarcoma.

Certain foreign Societies have lately discussed the relations of cancer to lymphadenoma, Hodgkin's disease, and other lymphatic diseases. The London Pathological Society devoted to these subjects three full sessions, and cases of lymphadenoma were reported which had proved rapidly fatal. The following translation from *Le Progrés Médical* shows that the surgeons of Paris are engaged in the study of the same subject:

"At the meeting of the Anatomical Society of Paris, M. Desprès said: At the meeting held on March 20th, M. Verneuil presented a communication to the Société de Chirurgie on the prognosis of tumors of the testicle. According to him, the disease almost always returns within a year from the time of the removal. According to my experience, this opinion is rather sweeping. I have followed a certain number of these cases for several years, and in a good many of them no relapse occurred. I remember, among other cases, that a patient suffering from a tumor of the testicle was shown to this Society in 1875. M. Malassez, who examined the specimen under the microscope, found all the characteristics of an alveolar sarcoma—a tumor bearing a very close resemblance to cancer; yet, three years after the operation, there was no symptom of a relapse.

M. Malassez replied: The word cancer has no longer any exact signification to histologists. It is of the greatest importance to determine the kind of cancer we have to deal with, and whether its progress be very rapid or slow. Among tumors of the testicle, the lymphadenoma is classed with those that present the greatest degree of malignity. Thus a patient operated on by M. Frélat had a relapse within the year, and a generalization of the disease. The specimen, after the autopsy, was presented to the Society, I believe, by M. Letulle.

M. Letulle remarked that he had seen another case of lymphadenoma occupying the left testicle, with induration of the right epididymis. Three weeks after operation, the disease returned and became general; the patient died.

EPIDEMIC OF YELLOW FEVER AT KEY WEST, FLA., DURING THE YEAR OF 1862.

BY ARNOLD STUB, M.D.

As a preface to the history of yellow fever, as it came under my personal observation, I beg leave to remind the reader that Professor Wunderlich had not written at that time his work on the thermometer as a means of diagnosis and prognosis. Carbolic and salicylic acid, as well as jaborandi, etc., were not in use in 1862; and I have no doubt that, at the present time, we have more means at our disposal to battle successfully with a disease still very mysterious in character. Presuming that it will be of interest to the profession, I shall quote a few cases and their treatment, but will give, at the same time, as my positive conviction, based upon personal observation and the experience of others, that each epidemic will require a special treatment. My treatment of the yellow fever, however successful it may have been at Key West in 1862, may meet with failure in 1878. The great diversity of opinion as to the treatment of yellow fever is, I believe, due to the fact that each epidemic presents, on account of local causes, different features, different symptoms, and requires a different mode of treatment, though the general principles are to remain always the same. The following history of the fever is collated from notes written during and immediately after the subsidence of the fever, and, consequently, some of the physiological views expressed will not altogether coincide with the views of to-day.

The geographical situation and the climatic circumstances of the Island of Key West are so well known, that I need only state that the Island has a slight elevation towards its centre of about ten feet above the level of the sea, lies under the 24° 30″ lat., and 80° 40′ 30″ long. The command stationed at the Island consisted of 448 enlisted men of the Ninetieth N. Y. V., and several detailed men of other regiments, who enjoyed, previous to the 27th of July, 1862, comparatively good health. The thermometer, during the month of July, averaged 85, 82°, and the hygrometer 82, 83°—an excess of heat which in itself is sufficient to harbor and regenerate the yellow fever poison, if once brought there. Key West, though situated in a near vicinity to Havana, has always had the name of a healthy locality, and fever has only seldom, and after long intervals of healthy seasons, extended its devastating power to the Island. During the year of 1861, the difference between the height of the thermometer and hygrometer, also the average temperature, have been the same as in 1862. A num-

ber of unacclimated men (several hundred) arrived in the spring of 1861, and remained during the summer—but no case of yellow fever occurred. As in 1862, the wind blew nearly constantly from a southern direction, and the fever was, as usual, severe in Havana. The winter of 1861–62 had been unusually mild, which caused a partial postponement of the decay of the vegetation until this summer. Large tracts of land, overgrown with brush and underwood, had been cleared during the spring and early part of summer for military purposes, which, though the most part of the vegetable matter had been burned up, left still a large quantity of rubbish to spontaneous decay. Portions of land of smaller dimensions, in the neighborhood of the Marine Hospital, and the buildings erected for a Machine Shop by the Navy, were fenced in by the owners, and the ground broken for gardening purposes. The U. S. Engineer Department, on the other side of the Island, caused the resurrection of the corpses of Africans buried on the south beach two or three years previous, being obliged to use that portion of ground for military purposes. The graves were opened, and the bodies transferred to another locality. I have been told that the removal of the corpses caused an almost insupportable stench, which infested the locality for some time. The work was done by laborers, mostly composed of Irish lately arrived from Europe. The wind, constantly blowing from the south or south-east, had caused the sea on the south beach of the Island to deposit large quantities of decomposing vegetable and animal matter, which constantly exhaled miasmata.

On the 21st day of July, six days before the first case of yellow fever occurred among the troops stationed at Fort Taylor, Key West, Fla., two cases of fever were admitted to the Marine Hospital from the bark "Adventure," coming directly from Havana. One of them died on the 22d of July with black vomit.

At the commencement of the epidemic I was in charge of the General Hospital, Key West, Fla. The fever, beginning on the 27th of July, reached its height in the latter part of August and commencement of September. Seven deaths occurred in my hospital on the 4th of September, four deaths on the 6th, and five deaths on the 8th. From this day the fever abated, and gradually assumed a milder type. The number of cases treated by myself amounted to 278—of these I lost fifty-seven. (This record takes in the time from July 27th to September 30th; after the latter date I was taken sick with the fever myself, and kept no private record.)

The first case, as already stated, occurred amongst the troops at Fort Taylor, Sunday, July 27th, '62. The man, private William Crandall, Co. K, Ninetieth R., N. Y. V., reported himself sick early in the morning

at sick call, and the physician in charge sent him to the General Hospital, at Key West Barracks, Fla. He arrived July 27th, '62, at two P. M.*

Early in the morning of the 28th I was called to his bedside; found him almost pulseless, skin cold, lying on his back, and throwing up black vomit with such a force that it soiled the ceiling above him. He died in the afternoon of the same day. No private record of his treatment kept.

The next case that occurred was Sergt. Burns, of Co. G, Ninetieth R., N. Y. V., stationed in camp on the east side of the Key West Barracks, and, as far as I am able to judge, almost two miles from Fort Taylor. He was found on the morning of the 30th of July in his tent with black vomit, and died in the evening.

August 2d two more cases occurred, of which one died August 9th. Another case reported sick August 3d, and died August 6th. From the 3d of August until the 15th the fever made a pause, and though a good many, from want of experience, not knowing the treacherous character of the enemy they had to deal with, exulted in the belief of its entire disappearance and pronounced the fever of a mild type, on the 15th of August two new cases occurred, and from that date until the 8th of September I had an increase of from five to ten fever cases per diem—some mild, others of the worst type.†

The almost daily prostration of my nurses convinced me at once that colored persons born on the Island would be the only ones fitted to act in such capacity, and upon my urgent request the commanding officer ordered the employment of negroes as nurses in our hospital.

Throughout the whole of the epidemic premonitory symptoms were generally absent. In a few single cases the patient complained for days previous to the attack of pain in head and constipation. In two cases diarrhœa ushered in the black vomit *without* previous fever. The same matter was discharged from the bowels, and death by coma soon closed the scene.

But I must add that in both these cases previous disease for months past (typhoid fever in one and chronic diarrhœa in the other case) had weakened the patient. A similar case to the above-mentioned, but remarka-

*I reported the case at once as suspicious to Surgeon C. H. Crane, U. S. A., at that time Medical Director of Key West and Tortugas, who examined the patient and confirmed my views of the case. (Unfortunately for the troops at Key West, Dr. Crane was appointed Medical Director, Department of the Gulf, and ordered to Hilton Head a day or two afterwards.)

†From a sanitary point of view it will be of interest to relate that the regimental quartermaster occupied for his office a small blockhouse situated near the regimental *stables*, and seven men detailed in succession as quartermaster, sergeants or clerks took the fever, and, with the exception of one, died.

ble also on account of the circumstances connected with it, is the following: Private George Cornwell, Co. I, Ninetieth R., N. Y. V., was admitted in the hospital with diarrhœa, August 21st. No fever, no headache, temperature of skin natural, from five to six bilious alvine discharges per diem. A few doses of mass. hydrargyr. cum ipecac. et opii. checked the diarrhœa effectually on the second day, and the patient was preparing to leave the hospital on the third day, when on the evening of the same day a drummer boy with yellow fever was carried on a litter to the fever ward past the window of Cornwell. The loud complaints the fever patient made, and evident fright he showed, alarmed Cornwell, and to such an extent, that an hour afterward he had violent fever himself, complained of severe headache. Soon the adnata of his eyes became watery, and severe pain in back and lower extremities distressed the patient; pulse full and incompressible, about 100 beats per minute. Hot bath. Take of calomel, ten grains; ol. ricini, one ounce. Mix. Two hours afterwards thirty grains of quinine sulph., and fifteen grains every three hours until four doses have been taken. Next morning patient complained of inability to urinate. Vomiting soon followed; the fluid, first watery, soon contained the coffee-ground sediment. A strong urinous odor of the existing free perspiration was manifest, and though at first much alarmed, and, in fact, scared into the disease by the other case, as soon as he heard the latter was improving, his natural vivacity of temperament predominated, and left him hopeful and without fear of dying. On the 1st of September the uræmia eventually brought on coma and death on the same day. For six days he threw up the black vomit. In this case a mixture of chloroform, fifteen drops; camphor, two grains; creosote, one-half drop; mucil. gum acaciæ, q. s., ut ft. haustus o. h., arrested the vomitus for twenty-four hours once, but failed to stop the progress of the disease. Ice *ad libitum*, brandy, and aromatic and diaphoretic teas in the beginning of the disease, besides, throughout the whole of the disease, sinapisms freely applied, constituted the treatment.

Nearly every case presented throughout the whole of the epidemic a different series of symptoms, much influenced by the constitution, temperament and idiosyncrasies of the patient. In opposition to observations made by others in most all other epidemics of yellow fever, there was no particular time during the twenty-four hours of the day when the attack occurred. Men were seized at all hours—some early in the morning or evening, others during mid-day or at night. In most of the cases the attack came suddenly. The victim was seized with a severe pain in the head, mostly across the supra-orbital region, often preceded by a regular chill, sometimes merely by a feeling of cold. The pain soon extended to the eye-balls, and in combination with intolerance of light,

——Cornaro Again.—It will astonish most men to find out just how little food, compared with their usual habits, is actually necessary to sustain life at its maximum. A Dr. T. L. Nichols, of Malvern, England, has recently been lecturing in London, and giving the results of experiments upon himself, with a view to determining this important question. During the first week he lived on bread (and its equivalents, wheatmeal, oatmeal, rice, etc.), milk, fruit and vegetables (he ate no flesh meat). His habits of life were regular, his excess being that of overwork. The total weight of ingesta (solid) for the first week was 3 lbs. 9½ oz., being a daily average of 8¾ oz. The second week he ate "Food of Health," milk and fruit—total weight, 4 lbs. 4½ oz., a daily average of 9¾ oz. He reports at the end of the second week that nothing could be better physiologically than the effect of the diet upon him. His digestion was perfect, and the actions of all the various organs was as good as it was possible to desire. During the third week he discontinued milk as unnecessary, and took of solid food 3 lbs. 2 oz., an average of 7¼ oz. per day. The fourth week, his food being similar, weighed 3 lbs. 6 oz., a daily average of 8 oz. He now added soups, puddings, eggs, etc., and the fifth week his food weighed 3 lbs. 12½ oz. For the sixth week it weighed 3 lbs. 15 oz., or 9 oz. per day. He had taken this diet without stimulants, and had experienced constant increase of health and strength and power to work, and his weight had remained at about 170 lbs. He concluded his lecture with the following sentiment: "The diet question is at the root of disease. Pure blood can only be made of pure food in proper quantity. Proper attention to diet would reduce the rate of infant mortality and remove many diseases. If the drink of a nation were pure and free from stimulating qualities, and the food were also pure, the result would be pure health." Truly the amount of food wasted and of energy in the efforts of the system to throw off this waste is something prodigious.—*The Sanitary Journal.*

——Q. E. D.—Dr. J. Milner Fothergill, of London, writes to the *Phila. Med. Times* this remarkable prediction: "The advance of medicine in the direction of therapeutics lies now mainly in American hands—or, perhaps, rather, heads." It has generally been alleged by foreign observers and critics, that, while American surgery and gynecology occupy a proud position, the practice of medicine in this country falls far behind that of the Transatlantic professions. So that the above is somewhat encouraging, and possibly may come true.

——The Eucalyptus in Malarial Disorders.—When quinine proves ineffectual, the eucalyptus, in ten-drop doses of the tincture, has proved successful in numerous cases.

——COMMITTEE ON HYGIENE.—At a meeting of the Committee, held the 9th inst., its proper work was canvassed. Hitherto the Committee has done very little work, and has only reported to the Society once a year. Practically, it has done scarcely anything or nothing toward gathering the harvest of valuable and interesting information which the observation and study of the hygienic condition of over half a million of people affords. Though it is now late in the year, the Committee resolved to make a beginning of work. It is proposed that the Committee hold monthly meetings for the purpose above indicated. A report or abstract will be prepared and presented to the Society, for publication in the "PROCEEDINGS." This statement of the plan of the Committee is made for the purpose of asking every member of the Society to cooperate in its work. Single facts and cases come under the observation or occur in the practice of the physician which he deems of importance, but does not now have the opportunity to present. He talks them over with the few he may meet, but does not write them out. The plan proposed by the Committee will bring together the observations of all the members of the Society, and the gleanings of the field will increase the common store. It is earnestly requested that every fact or item of sanitary interest, or regarding prevailing diseases, should be communicated to the Secretary of the Committee on Hygiene, 398 Fulton St. The next meeting of the Committee will be held Dec. 6th.

FRANCIS H. STUART, M.D., *Chairman Com. on Hygiene.*

——THE PURE RUBBER BANDAGE, introduced by Dr. Martin, of Boston Highlands, has proved to be a means of vast relief to many cases of chronic ulcer of the leg and eczema of leg. Dr. M. has written, for the *British Med. Journal*, Oct. 26, a detailed account of his plan, and the success achieved by it within the year past. He is evidently quite willing to take a contract to empty all the ulcer wards of all the hospitals of the land. Dr. Bulkley contributes to the *Archives of Dermatology* an article setting forth the value of the bandage in the treatment of eczema.

——THE VERY LATEST ON JABORANDI.—Jaborandi is to be classed as an emetic. While it may exert a sialogogue and sudorific action without emesis, just so may ipecac. They cause dilatation of and retardation of flow through the surface capillaries by paralysis of the sympathetic fibres distributed to them. Hence we have copious sweating and secretions from mucous surfaces." Vide *Amer. Jour. Med. Sci.*, Oct., 1878, p. 378.

DR. RAI RARA NARAIN DASS BAHADOOR, Calcutta, has performed lateral lithotomy 248 times, and only 17, or 1 in 14½, died. Cheselden lost 20 cases out of 213; Liston, 16 out of 115; and Guersant, 9 out of 60.

quarts. Hiccough troubled the patients considerably. The matter, in consequence of its acrimonious nature, excoriated frequently the tongue, throat and lips; the stools, also, often consisting of a similar matter, caused a painful sensation in the anus, at the same time having a very offensive smell. The time from the commencement of the black vomit until its termination in health, or death, of the patient, differed considerably: sometimes, though seldom, it ended fatally in twenty-four hours; often it lasted longer, and in one case where it was protracted for four days, it ended in recovery of the patient. Although I always considered its appearance as a very grave symptom, it has been my fortune to restore twelve well-marked cases of vomitus niger to health. Out of 278 patients, 69 presented the symptoms of black vomit—57 died, and 12 recovered. During the last stage, above described, I found the pulse generally below the natural standard of health. It varied from 50 to 65 pulsations in a minute, was generally small and easily compressed. In two of the cases which terminated fatally the pulse reached 109 beats in a minute.

The color of the skin differed considerably in the different cases. Sometimes natural; seldom it presented the different shades of yellow, but, generally speaking, the yellow color, if it appeared at all, showed itself shortly before death took place. In two cases, which afterwards recovered, I noticed a third, or, as some may call it, a fourth stage of the fever. The matter thrown up changed its color; in place of representing a tarry appearance, it became mixed with streaks of blood, the tongue in several places became scarified, and blood began to ooze from it, as well as from the gums and lips. Epistaxis and bloody stools made their appearance, and the yellow color of the skin, previously pale, assumed a dark orange color. The hæmatemesis I succeeded in checking, in the one case with half-drachm doses of tinct. ferri muriatica every hour, and in the other case the liq. ferri persulph., Squibb's, had an excellent effect. The other ten remaining cases of black vomit passed rapidly, after the vomitus had been checked, into a state of convalescence, and improved faster, and sooner resumed their duties, than others who, from a severe attack of yellow fever, passed from the first stage to convalescence, without going through a second and third stage.

Those cases which proved fatal died generally on the fourth or fifth day. One single case, private McNamara, of Company I, Ninetieth N. Y., died three weeks after being attacked with the fever. He passed through all the stages of the fever. First the hot stage, lasting forty-eight hours; the second stage, with evident signs of the coffee-ground vomit; the third stage, with hæmaturia, hæmatemesis and bleeding from the tongue and gums; at last icterus and a low typhoid state of the sys-

tem, with slight mental aberrations, and sudden death by asphyxia took place on the twenty-first day of his illness. The recovery after the yellow fever was generally rapid—ten days after the first attack the patients generally resumed their duties again. The following case, however, made an exception: Private Thomas Cullen, of Company G, was taken sick with the usual symptoms on the 31st day of August. He complained of a severe pain in head and back, burning of the eye-balls and pungent heat all over the body, pulse full 100 beats per minute, tongue white, fur in the centre and red edges and tip, bowels constipated, nausea and thirst. Ordered him a hot bath, purgative consisting of ol. ricini, one ounce; hydrargyr. subm., ten grains. Mix. Ft. haustus. The bath caused profuse perspiration, which I kept up for six hours by hot drinks, consisting of diaphoretic and aromatic tea, made of Lemon-grass, botanical name of which is unknown to me; but the plant is freely used by the natives to promote perspiration in fever. The purgative had its desired effect an hour after its administration, and caused the discharge of three copious dark-colored stools. Heat of skin relaxed and gave place to more natural moisture. After the operation of the purgative, nausea did not so much distress the patient. A burning thirst still continued, which small pieces of ice did not relieve. Fifteen grains of quinine every three hours. The following morning I found the man still with fever, but the adnata of the eyes did not present the characteristic watery appearance of the day before. Skin dry and pungent; pain in back increased; tongue same as on the day previous; one discharge from bowels during the night; urine straw-colored and in normal quantity. Ordered twenty grains of quinine. Pulse sank to eighty beats per minute within two hours from the time quinine was given. All the other symptoms abated, but gastric irritability manifested itself. He vomited a clear watery fluid, occasionally mixed with bile. Ordered pulv. capsici, three grains, in pill form, every two hours, and an effervescent draught well cooled with ice, if thirst became intolerable. The same symptoms September 2d, with the exception that a painful sensation on the epigastrium and a tightness around the præcordia, much complained of the day previous, had considerably lessened.

The frequency of vomiting had also somewhat diminished, and the man felt more comfortable. Urine albuminous. Treatment continued. September 3d, the same as on the 2d, except pulse had fallen to 75 beats per minute. Complained of being very much prostrated. Had two evacuations from the bowels during night, and complained of an uneasy sensation in the right iliac fossæ, increased by pressure. Tongue moist and clean. Gastric irritability considerably less. Ordered warm fomentations to abdomen, which relieved the uneasiness in the iliac fossæ.

Continued effervescent draughts, with the addition of some brandy. Diet same as day previous, farina. September 4th: Found patient very weak, but otherwise comfortable; no irritability of the stomach, no pain, and with a longing for more nourishing food. Egg-nog, 2 ounces three times daily, and strong beef-tea and toast.

September 5th and 6th the same condition and treatment. September 7th I found the man with a pulse of 65, apathetic countenance, and face of a peculiar livid hue; tongue evinced a tendency to dryness, and the pain in the right iliac fossa had returned; warm fomentations to abdomen. Emulsion of G. acaciæ, one-half ounce; ol. terebinth, ten drops. Mix. Ft. haustus every two hours; brandy, one half-ounce every three hours; beef-tea and farina.

September 8th: Tongue brown in the centre, typhoid fever stools made its appearance, and the expression of the countenance bore a striking resemblance to those of many typhoid fever cases I had occasion to observe in the spring previous. Continued treatment, but added two and one-half drops of tinct. opii. to each dose of the emulsion.

September 9th: Typhoid symptoms were well marked. Sordes around the lips and tongue; epistaxis; parotidea of right side enlarged. Ordered tinct. iodinii ad locam affection. Continued treatment. September 10th, the same. September 11th, Mumps on the left side; also, tongue began to moisten. Discontinued ol. terebinth, but continued brandy and beef-tea. September 12th, 13th and 14th, gurgling in the iliac fossæ had disappeared; glands rapidly enlarged. Ordered, September 14th, cataplasma lini and small doses of quinine. Continued treatment. September 15th, 16th and 17th, I made on both sides of the face an incision, which caused the discharge of a thick ropy, greenish pus. Continued the balance of treatment until September 22d, occasionally reopening the apertures of the incisions, and applied the ungt. mercurialis afterwards, to remove a remaining induration.

September 30th patient was dismissed from the hospital.

The following two cases I introduce here also, because their protracted illness and complication deserves a special notice:

Corporal Charles Johnston, of Co. G, took sick early on the morning of August 27th, and was immediately admitted into the hospital. The symptoms attending his case in the outset did not present anything of unusual interest. I merely mention that it was a fairly developed case of yellow fever. He received a hot bath and fifteen grains of quinine every three hours until four doses had been taken. An enema on the morning of the next day and effervescent draughts *ad libitum*. Forty-eight hours after admittance the hot and pungent skin gave way to a natural appearance of the surface of the body. Pulse began to get softer, and nausea pre-

viously existing ceased. On the morning of the 30th patient complained of extreme weakness. Ordered small doses of quinine. two grains ter in die: also port wine, two ounces three times daily, with good beef broths. e.c. Continued until September 3d. During the interval patient had been free from fever. regular stools and no pain. and a constant desire to leave the hospital: but still extreme debility predominated. He lost flesh. and at the same time his natural vivacity of temperament gave way to melancholy despondency. His diet had been generous. September 4th small furuncles made their appearance all over his body. On the 6th he was literally covered with them. On the 7th paronychia (felons) on every one of his fingers began. On the 8th the whole man was one mass of running sores: and though I did all in my power to keep up his strength with nourishing diet. iron. quinine, wine or brandy. he suddenly died September 10th.

Private Benjamin Arrisan. of Co. F, Ninetieth R., N. Y. V., admitted August 22d. presented the usual symptoms of the fever. Treatment as usual: hot bath. quinine. and as soon as the gastric irritability showed itself. capsicum, besides sinapisms to epigastrium. back. etc. August 25th. vinum alb., two ounces three times daily; continued until September 4th. Diet after the cessation of the febrile stage generous: but the patient being a mere boy of about 17 years of age. did not appear to gain strength. but lost flesh. and became more and more debilitated. On the 3d of September it appeared on the right hypochondrium. and on the right thigh large red spots extremely painful to the touch. They were not elevated above the surface of the skin. but their outline could distinctly be felt through the cuticle. On the 6th the spot upon the thigh had disappeared; but the one on the right hypochondrium had enlarged. and was extremely painful. besides distinctly elevated. Suspecting hepatic abscess, I ordered cataplasma lini ad locam affection. Continued treatment until September 12th. by which time hardness had disappeared. From September 5th to 12th he had been taking ext. taraxaci fl., one-half drachm: ammon. murias. ten grains, mix, three times daily, besides the wine. etc. From September 12th to 30th, cod liver oil. wine, quinine and good diet. Discharged September 30th.

In five cases endo-carditis was the consequence of the yellow fever: three of these took the fever twice in the course of five weeks. and the second time more violent than the first. One case, after the yellow fever, developed symptoms of phthisis pulmonalis. and died five months afterwards. Another the fever left with nyctalopia, and in one case an attack of acute hepatitis followed a severe attack of the yellow fever. The rest, as already above stated. recovered rapidly.

I exceedingly regret that throughout the whole of the epidemic I have

been so constantly employed at the bedside of my patients, that I could find no time to make post-mortem examinations.

In the treatment of the yellow fever, I followed the theory (1862) that the poison, similar to that of malarial fevers, attacked the ganglionic system. The latter, which penetrates through the whole of the human body, runs in branches throughout the whole of the arterial and venous system, both the ganglionic and arterial system depending upon each other for their vitality. It (the poison) attacks first that portion of the ganglionic system which supplies the external capillaries. These lose their vitality or tone, and cause a concentration of the blood towards the centre of the body. The fever, in its first stage, I considered caused by the irritation of the capillaries of the external skin. The natural consequence is heat of the body, and absence of perspiration. To restore the tone of the external capillary system, and to prevent a concentration of the blood towards the centre of the body, seemed to me the first object to obtain in the commencement of the treatment. The next, to remove the cause of the evil—I mean to counteract the morbid influence of the treacherous poison absorbed by the nervous system, and causing the above results. To obtain the first indication, I found that nothing will answer better than the hot bath and sinapisms. To act as an antidote against the poison, large doses of quinine by the mouth, as well as locally by friction all over the body. The quinine acts as an apyretic, as a tonic and stimulant on the ganglionic system, besides combining the properties of a sedative, if administered in large doses, and reducing the palpitation of the heart, which, in the yellow fever, often was a prominent symptom.

The same poison which attacks the ganglionic system of the external skin also in many cases involves the capillary system of the intestines, and causes the peristaltic movement to be suspended, and a purgative will be required to clear the alimentary canal, and to prepare the system for a prompt absorption of the quinine. In a similar manner are the other organs, kidney, liver, and sometimes the spleen, affected, to which I ascribe the local pains often felt in those regions.

If those indications above mentioned have been fulfilled, the patient will pass at once into a state of convalescence; if not, the second stage commences. The capillaries either partially or entirely, according to the more or less severe action of the poisonous influence upon their ganglionic system, have lost their tone, contract, and cause the blood, in leaving them, to concentrate more towards the internal organs. This retrograde movement of the blood is not effected at once; but it takes place gradually, in harmony with the advance of the fever poison on the ganglionic system. It leaves the patient, for a short time, at least, comparatively free of pain. This I consider the most critical period of the malady. This is the moment when the physician is to concentrate his

attention to the patient, and by judicious measures to prepare the network of capillaries of the lining membrane of the stomach for the shock that awaits it. The poison is now about to centre its malignity on the capillary system of the stomach. It excites the organ first to spasmodic action, resulting in vomiting, and causes an abnormal secretion of the gastric juice: eventually the capillaries lose their tone, and in the mildest cases hæmatemesis is the consequence, or, *in extremis*, the vomitus niger.

The latter, I believe, is principally caused by the blood entering the stomach through the walls of the capillaries, meets there with a fluid which, in regard to some of its constituents, resembles the gastric juice in its normal condition, and by this fluid is decomposed. I believe that the apparatus producing the gastric juice has suffered by the invasion of the yellow fever poison to such a degree that its product becomes changed in regard to the proportionate combination of the different materials composing the normal gastric juice; because, if this was not the case, why does not the stomach always in simple hæmatemesis discharge the blood decomposed, and transformed into the mass called the black vomit, as the stomach at all times contains more or less of gastric juice, which, if it alone in its normal condition were capable to decompose the blood, should do it then also? And why, I ask, is it, that in a case of black vomit the first sign of hæmatemesis is hailed as a favorable symptom?

Dr. Wright's notes on yellow fever, dated December, 1794, and particularly Dr. Daniels' little work on autumnal fevers, dated Savannah, on or about 1848, induced me to try the capsicum immediately after the hot stage of the fever had passed off. I administered it in three-grain doses every hour, or every three or four hours, and with the happiest effect; it nearly always checked the vomiting, and appeared, as Dr. Daniels remarked, to give a new vigor to the whole of the system, which remark I interpreted, that it gives tone to the network of the nerves of the capillaries of the stomach, causing them to retain their normal condition. I found it frequently highly useful in changing the morbid condition, if black vomit had already commenced, but more useful still as a preventive of the same.

In giving a *summa summarum* of the treatment adopted by me, I merely will state that as soon as a patient was admitted, I ordered him a hot mustard bath, and generally ol. ricini, 1 ounce; hydrarg. subm., ten grains. Mix. Ft. haustus. Nearly always the latter produced, in the course of one to three hours, copious evacuations, and immediately afterwards I gave fifteen to thirty grains of sulphate of quinine, and repeated the dose every three or four hours, until sixty grains had been taken. If the desired effect of the quinine had not been obtained by this time, I found it useless to push the remedy. To give first the

calomel, and four hours afterwards the castor oil, and after the operation of the latter, the quinine, I did not consider advisable, simply because valuable time was lost. To expect anything from the specific effect of the calomel in yellow fever I think unwarranted; and to delay the use of the quinine, which I consider an antidote, quickly and promptly to be administered, I think rather hazardous. The object of giving the purge is merely to clear the alimentary canal of the fæces, and to prepare the system to absorb the quinine more readily. An enema, or the croton oil, had the same effect as calomel and castor oil, where extreme irritability of the stomach prevented me from giving the latter. Hot drinks I always prescribed after the bath, to induce perspiration. Often I used frictions of alcohol and quinine (La Roche) all over the body, after the hot bath had not the desired effect. In those cases where the skin remained hot and dry twenty-four hours after admittance, I resorted to wet sheets, after the method of Priesnitz. Out of twelve cases treated with the latter, ten recovered. For this purpose I used *ice-water* and had the packs changed every hour. Private Banker, Company G, Ninetieth N. Y. V., was admitted into the hospital with the usual symptoms; received a hot bath, a purge, and fifteen grains of quinine every three hours, until sixty grains had been taken. Next day skin still hot and dry, pulse 100 a minute. Ordered frictions of alcohol and quinine—produced no effect. On the evening of the same day violent delirium and symptoms of meningitis; delirium so wild that he had to be bandaged to his bedstead. Ordered wet sheets and pack every hour, and continued their use until the fourth and fifth day. Towards the evening of the fifth day skin began to moisten, head symptoms disappeared, and on the sixth day patient was convalescent. During the whole time he was packed, no medicines, except once an enema, had been administered. Another case, to illustrate the happy effects of quinine, if given in large doses, will be the following: Sergeant Stone, Company G, Ninetieth R. (now in Brooklyn, I believe), was admitted at six P.M., August 19th, with violent fever and vomiting. Ordered hot bath, calomel purge, sinapism to epigastrium. One hour after admittance, violent delirium; thirty grains of quinine at nine P. M., to be repeated at midnight.

Next morning I found the sergeant without delirium, a moist skin and very little fever. Under the use of capsicum and proper diet he rapidly recovered. Small doses of quinine of five grains every three hours I found to act injuriously. In the early part of August I lost ten cases in rapid succession, which caused me to abandon this mode of treatment at once. In those cases where collapse made itself remarkable I resorted to injections of brandy per anum and sinapisms, gradually enveloping the whole of the body in sheets of mustard poultice. Aqua calcis and milk, and in a few cases creosote, relieved the nausea.

Towards the end of the epidemic, not included in the foregoing list, quite a number of my colored nurses took sick with the fever and died. Not one of them died. Strange to say, negroism had no effect in checking their vomiting, but small doses of argt. nitrat. often repeated, although useless with our soldiers, in every case checked the black vomit of the negroes.

Besides the hospital at Key West Barracks, called the General Hospital, there then existed a hospital at Fort Taylor, and an officers' hospital located in the city of Key West. These two were alternately under the charge of Dr. E. S. Hoffman and Dr. McCormick, besides the marine hospital in charge of Dr. McCormick. A fourth hospital temporarily created for the reception of yellow fever patients belonging to the corps of colored laborers employed by the U. S. Engineer Department, in charge of Dr. Wilburn, resident physician of Key West. I have no notes in my possession referring to the number of yellow fever patients treated in these hospitals. Rev. J. G. Bost, of DeKalb Avenue Brooklyn, who, during the time of the epidemic, was the Chaplain of the Nineteenth Regiment, N. Y. V., and its untiring devotion, not alone in his spiritual capacity, but by taking personal charge of the nurses and nursing, deserved the thanks of the Command. From the perusal of the records kept by this gentleman, I have learned that from July 28th until October 20th, when the latter date ends the epidemic, the Nineteenth Regiment, N. Y. V., lost seventy officers and soldiers of yellow fever; two men of the Fifth U. S. Artillery, two of the U. S. Engineers, five of the Forty-seventh N. Y. V., and two officers, Paymaster Barron and Dr. Gould, of the U. S. man-of-war "Huntsville," succumbed to the disease. All these were treated in the hospitals at Key West Barracks, Fort Taylor and in the officers' hospital. The total number of men of the Nineteenth Regiment, N. Y. V., taken sick with yellow fever from July 28th until October 20th, 1864, amounted to about 361. The last death recorded was Lieutenant Gri-

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——The Army Medical Museum.—A new line of collections has been undertaken by this admirably conducted department. The editor of *Harper's Magazine* for June states that materials are being collected from every source for the illustration of the craniology and osteology of man; and not less than 2,000 specimens are now on exhibition. Their number will be constantly increased, by exchange and otherwise. When it is added that Dr. Otis, U. S. A., has charge of this undertaking, no one will doubt concerning its vigorous growth, and that the profession will presently reap the benefit of it. It will grow apace. It was Scott, we believe, who once said, "Aye, Jamie, plant a tree, it will be growing whilst you're sleeping." They plant fruit-trees at the museum, if nowhere else in Washington.

——Prevention of Puerperal Fever.—The sanitary authorities of the Tyrol have adopted regulations requiring the use of carbolic solution on all instruments, sponges, etc., which have been employed in the delivery of every woman, whether normal or otherwise. Before examining a patient, the midwife must use the disinfectant on her hands. In order that this may always be forthcoming, every midwife must, under penalty, take with her a five per cent. solution of carbolic acid. When required for use, one part of this solution is to be mixed with four parts of water. —*Med. Examiner*, April 25th.

——Better than being President.—In the *Boston Medical and Surgical Journal*, June 13th, Dr. Henry J. Bowditch has a letter concerning the recent meeting of the American Medical Association. Listen to what he says of Dr. Austin Flint, Sr.: "Some would have liked to see him placed in the presidential chair, because he has labored for the Association when asked to do so; and I suppose I may say he stands *facile princeps* as the representative of American medicine, not only in America, but throughout Europe, and is beloved and respected by the whole profession." This is the graceful tribute of one *great* man to another; it is better than many votes

of little men . . . . This is no reflection on Dr. Parvin, the new President, for he, too, stands in the front rank in the Association and profession.

——Dr. Alex. D. Creamer died June 11th, of pulmonary hemorrhage, in the 24th year of his age. He had but recently graduated from the University of New York, and had begun to practice in co-operation with his father, Dr. Joseph Creamer, in the Eastern District of this city.

——Tomatoes and Cancer.—A bogus medicine man of Philadelphia claims to have found the grand source of cancer in the tomato. He brought his microscope to bear on that popular vegetable and discovered that it was full of cancer-cells. The Michigan State Board of Health is engaged in the investigation of this subject.

——Enlargement of Spleen.—At the London Pathological Society discussion of Diseases of the Lymphatic System, Sir William Gule stated that, in malarial disease, when the spleen became enlarged the pyretic attacks ceased.

——Injuries to the Biceps.—Dr. Gerster, formerly of this city, contributes an article on this subject to the *N. Y. Medical Journal* for May. He reports a case of rupture of the biceps from lifting a heavy wine cask.

——Chloral and Bromide of Potassium in Epilepsy.—These remedies combined are said to arrest epileptic seizures at once, and smaller doses are required than when used separately. Dr. Seguin's formula gives ten grains of bromide and five of chloral to the teaspoonful, and four to six spoonfuls are given in a day, the largest dose being ordered at bed-time.—*N. Y. Medical Journal*, May. Therapeutical Society of New York.

——Iron.—Dr. Matthews Duncan, of London, is reported as being skeptical concerning the usefulness of iron in the treatment of anæmia.

——Chronic Albuminuria.—M. Bouchut has been employing fuchsine at the Children's Hospital, Paris, in this disease, with good results. One case of ten months' duration, with general anasarca, and probable serious organic disease of the kidneys, was restored to health in a fortnight by fuchsine and milk diet. The dose was one and a half to three grains daily.—*Med. Examiner*, April 25th.

——Morphia-mania.—Liedesdorf, of Vienna, reports five cases treated under gradual withdrawal and medication; habit cured in from eight days to eight weeks. One case only relapsed and committed suicide.—*Va. Med. Monthly.*

——Hysteria.—The late Dr. Peaslee held the view that this disorder is always ovarian, rather than uterine, in its causation, when any one organ was responsible for it; and congestion of ovaries is much more frequently attended by hysteria than inflammation of those organs.

Grave forms of hysteria are, according to M. Charcot, only amenable to treatment in seclusion from the family, in some private or hydropathic establishment. The patient must be douched several times a day; if cross, noisy and unruly, the circle-douche should be used. The only persons to be seen by the patient are the physicians and the unsympathetic attendants; the parents are allowed to see their daughter once in two or three weeks, and then only if she has been well-behaved. Under this regimen she by degrees grows quiet and begins to eat. No drugs are employed, the treatment is external; it is half addressed to the morale and half to the physique. Every single case thus disciplined has resulted in a cure.—Charcot's Lecture in *Lancet.*

——Ueber die ungleiheit in der Länge der unteren Gliedmaassen vor und nach einem Bruche des Femurs. Von JARVIS S. WIGHT, uebersetzt von PAUL KRETZSCHMAR. *Deutsche Zeitschrift für Praktische Medicin.* No. 28 und 29, Juli 13, 20, 1878. Copies of this journal, containing the translation of Dr. Wight's paper, have been sent to the rooms by Dr. Kretzschmar.

——MEDICO-LEGAL EVIDENCE relating to the detection of human blood presenting the alterations characteristic of Malarial Fever on the clothing of a man accused of the murder of Narcisso Arrieux, December 27th, 1876, near Donaldsonville, State of Louisiana, Parish of Ascension, by JOSEPH JONES, M.D. A very interesting contribution to the legal aspects of Blood Microscopy.

——Antagonism of Alcohol and Diphtheria, by E. N. Chapman, A.M., M.D. "Alcohol is as antagonistic to diphtheria as belladonna to opium or quinia to malaria." This little brochure of Dr. Chapman's needs no introduction to the Brooklyn profession. Dr. Chapman asserts in his preface that the facts in his book show that "Alcohol in diphtheria is not only a valuable medicine, but a trustworthy antidote—one capable of saving ninety-five per cent. in severe epidemics."

——DR. MATTHEW F. REGAN died of phthisis July 19, 1878. He was 42 years of age, a native of Ireland, and thirty years in this country; graduate of College of Physicians and Surgeons, 1856, and a member of this Society since 1860.

——VACCINE AND ITS TRANSPORTABILITY.—A recent number of the *Lancet* quotes from some official report of the Governor of the Windward Islands to the effect that very little vaccination had been done during the year 1877, for the reason that it was difficult to obtain good virus. This latter excuse seems unaccountable, when it is known that vaccine may be so prepared and packed as to go on its travels nearly round the

world, and be perfectly effective at the end of the journey. Bovine lymph, from a vaccine farm in this city, is sent by nearly every trans-Pacific steamer running from San Francisco to Japan and Australia, and is reported successful in nearly every instance. Vast quantities of this lymph, sent to California during the recent epidemic of small-pox, were used, and a failure scarcely ever reported until the lymph had been on hand there for three or four months.

——Heat-Stroke.—The Boston *Medical and Surgical Journal*, July 11, gives an account of the successful treatment of a desperate case of heat-stroke, or thermic fever, as Dr. Wood, of Philadelphia, prefers to call it. The means employed were the application of ice to the head and repeated spongings of the whole body with ice-water. At the outset the temperature in the axilla was 109.2° F. An hour later the heat was reduced about seven degrees. Late in the treatment the hypodermic injection of quinia was practiced with apparent benefit.

——New Remedy.—It seems as though Australia is to give us another valuable medicine besides that derived from the Eucalyptus tree. The leaves of the so-called cork wood (*Duboisia myoporoides*) yield a powerful extract similar in its action to atropine and belladonna, but more speedy and energetic. In New South Wales and Queensland, where these properties have recently been developed by experimentation upon animals, the new drug is already considerably used in place of atropine.

——Healing Raw Surfaces.—Nearly a year ago, Dr. G. F. Waters, of Boston, made the discovery that the bicarbonate of soda, if applied to a burned or scalded surface, promptly subdued the pain. He performed a somewhat impressive experiment, to prove his discovery; he scalded himself severely, on a space seven centimetres broad, all around his wrist. The application of the bicarbonate immediately relieved the pain, and if all had gone well the burn would have been cured in a week. But the doctor was careless, and permitted his cuff-button to catch and tear the blistered skin, and further trouble of the same sort was caused by friction on the edge of the cuff. The result was, that while the rest of the burn was soon cured, the part thus torn became a troublesome, suppurating wound. Studying the subject, Dr. Waters thought that possibly vegetable albumen might answer the same purpose that animal albumen is supposed to, in the formation of dermal scales. He proceeded to test this theory by removing the scab from a portion of the wound, drying the surface with blotting-paper, and then immediately applying the white juice of the common milkweed (*Asclepias syriaca*). Space after space of the sore surface was thus treated, each portion being allowed to heal successively before the next part was tried. According

to the depth of the sore, the time of healing varied from twenty-four to thirty-six hours; but in each instance new skin formed completely across. The doctor states, as to this new discovery, that the only essential point is to dry the wounded surface gently and thoroughly with blotting-paper before applying the milkweed juice. From the description, it appears that, after the juice was applied, and while the healing was in progress, a piece of blotting-paper was also used to cover the surface.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The September meeting will be held on the 17th.

Notices of Papers will be issued through postal, as usual.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

OFFICERS AND COMMITTEES FOR 1878.

President.....Alex. Hutchins, M.D., 796 De Kalb Ave.
Vice-President.....C. Jewett, M.D., 310 Gates Ave.
Secretary.....R. M. Wyckoff, M.D., 532 Clinton Ave.
Assistant Secretary.....G. A. Evans, M.D., 449 Bedford Ave.
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CENSORS.

J. D. Rushmore, M. D., (Senior Censor), G. W. Baker, M. D., R. M. Buell, M. D., J. H. H. Burge, M. D., F. W. Rockwell, M. D.

DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

Drs. J. C. Shaw, S. G. Armor, R. M. Wyckoff, Drs. A. C. J. Skene, G. G. Hopkins, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

COMMITTEES OF THE SOCIETY.

HYGIENE.

Drs. F. H. Stuart, T. P. Corbally, J. Walker, W. E. Griffiths, J. H. Hunt.

REGISTRATION.

Drs. C. H. Giberson, W. E. Griffiths, J. A. Jenkins, Drs. W. G. Russell, N. Matson, F. W. Rockwell, Drs. R. M. Buell, R. W. Wyckoff,

PUBLIC INSTRUCTION.

Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, September 17, 1878.

THE TREATMENT OF ULCERS WITH A SATURATED SOLUTION OF CHLORATE OF POTASSIUM.

BY T. M. ROCHESTER, M.D.

I wish to call attention to the treatment of ulcers, ulcerations, and suppurating wounds and sores in general, by the use of a saturated solution of chlorate of potassium. I have said suppurating sores in general, and so it will be found beneficial in all of these; but it is especially useful in that particular class of old, unhealthy, indolent ulcers which are one of the opprobria of our art. Let me describe briefly my plan of treatment in one of these cases.

Suppose, for example, a patient comes with an old, indolent ulcer on the leg, which is the most frequent situation. The sore is foul, unhealthy in appearance, and ill-smelling. The limb is usually much swollen, granulation is at a stand-still, the ulcer may even be phagedenic, and the discharge is thin, sanious and offensive. As a rule, the patient has the sore covered with some salve or ointment, and the limb is either bandaged tightly or strapped with adhesive plaster.

In a case of this kind I immediately remove all bandages and constrictions, and direct that they shall not be again applied. The ulcer is then carefully and gently washed with warm water, after which it is ordered to be gently douched five or six times a day with a saturated solution of chlorate of potassium; my usual prescription is: Take of pot. chloratis, 2 drachms; aquæ puræ, one pint. The best method of doing this is to fill a

sponge with the solution, and then slowly press it out, holding it within an inch or two of the sore. After the ulcer has been quite freely douched, a thin layer of the unguentum zinci oxidi should be spread around the edges. It is then to be completely covered with a piece of oiled lint, kept in place by a bandage applied as loosely as possible. The douching should be repeated, at first, five or six times daily; the zinc ointment need not be used more than twice in the twenty-four hours. At the end of two or three days the ulcer will begin to assume a healthy appearance, and commence to granulate nicely. When this improvement is noticed, the number of douchings should be decreased—otherwise the granulations will become pale and flabby. As the sore fills up and begins to heal over around the edges, the zinc ointment should be increased, so as to cover the new skin. This serves to protect and strengthen it. So, too, it is well to continue its use for a few days after the ulcer has completely skinned over.

Such, in brief, is my mode of dealing with these cases; and it is with the keenest satisfaction that I have watched case after case of unhealthy, indolent, varicose or specific ulcerations, which have defied one treatment after another, and worn out the patience of physician and patient alike, take on a healthy appearance after two or three days of this treatment, and thence proceed rapidly to a complete recovery. During the past fifteen months I have seen and treated by this plan between ninety and one hundred cases, and in no single instance have failed to see immediate and continued improvement, and, when they could be kept track of, complete healing in from one to six weeks.

This number of cases embraces not only the ordinary indolent ulcers, but also syphilitic, varicose, and one case which I believe was carcinomatous in its character.

Several of my cases had had scraping and skin-grafting tried in vain. Where they were syphilitic, constitutional treatment had been and was used alone without effect; but rapid healing immediately took place when the douching with the saturated solution of chlorate of potassium was combined with it.

There is another point that is worth mentioning, and that is, that this douching is entirely painless after a few applications. It may smart a little the first or second time, but even then it is so slight as not to be taken into consideration. Now to mention a few cases, as it would only be tedious to give them all. The following are fair samples of the whole, as they are taken entirely at random and not selected at all, with the exception of the first, which is a very marked example of the efficacy of this treatment.

Case.—C. K., male, aged 29, was sent to the hospital to have the leg

amputated at the middle third of the thigh, as a last resort. Had an ulcer three inches by one and a half on the external, lateral aspect of the leg. The limb was swollen to twice the natural size, and gangrenous in appearance as far as the lower third of the thigh. The discharge from the ulcer was thin, sanious and very fetid. There was no history of syphilis, either congenital or acquired. Had been getting gradually worse for over a year, although he had tried almost everything, and seen a number of physicians in regard to it. He walked with great pain and difficulty. The solution of chlorate of potassium was used, and by the third day a decided improvement was noticed. The swelling of the leg had decreased, and the ulcer began to granulate nicely. At this time he had an attack of delirium tremens, which lasted four or five days; but notwithstanding this shock to the nervous system, the leg continued to improve *visibly* from day to day. At the end of four weeks the limb was of the normal size and appearance, the ulcer healthy, and about as large as a three cent piece. The patient could walk without any inconvenience, and insisted on leaving the hospital, to fill the position of organist in a Catholic church, although strongly advised not to. He returned after a week or two with the leg slightly swollen, and the ulcer about the size of a silver quarter. The treatment was resumed, and he was discharged cured in ten days.

Case.—A. G., female, aged 30. Syphilitic. Large deep ulcer on the posterior aspect of leg. Discharge excessively foul and unhealthy. Had tried specific treatment alone in vain. Leg healed nicely in about five weeks, under the combined use of constitutional and the chlorate of potassium treatment.

Case.—M. W., female, aged 65, syphilitic. An extremely large and deep ulcer, covering nearly the whole of the posterior and external lateral aspects of the leg. Discharge excessively fetid. Rapid and continued improvement for several weeks, under the combined constitutional and chlorate of potassium treatment. Lost sight of before complete healing took place.

Case.—J. H., male, aged 66. Several small but troublesome ulcers along the crest of the tibia. Had been troubled for months. Probably due to a previous injury of the knee-joint. Healed completely in ten days by this treatment.

Case.—P. M., male, aged 38. Varicose ulcer of leg. Had been troubled for over a year. Healed completely in one week.

Case.—O. H., male, aged 46. Small indolent ulcer of the leg of many months' standing. Healed in one week.

Case.—C. K., female, aged 40. Large indolent ulcer of the leg of over a year's standing. Rapid and continued improvement for two weeks. Was then lost sight of.

Case.—P. N., male, aged 38. Troubled with a large varicose ulcer for several years. Healed completely in three weeks.

Case.—S. T., female, aged 10. Simple but unhealthy-looking ulcer of several weeks' duration. Healed in one week.

Case.—M. C., female, aged 40. Varicose ulcer of several years' standing. Healed in four weeks.

Case.—F. F., male, aged 19. Two large, ragged, deep and unhealthy-looking sores on the right leg, and a similar one on the left. Discharge excessively fetid. Looked as though gangrene had set in. Healed completely in three weeks.

Case.—M. M., female, aged 40. Large indolent ulcer of the leg of several years' standing. Healed in five weeks.

Case.—L. C., male, aged 41. Troubled for years with an indolent ulcer of the leg. Had tried almost everything—amongst other means, skin-grafting—but without benefit. Healed in two weeks.

And so I might go on, and enumerate case after case; but I think the above are sufficient to prove the efficacy of this plan of treatment. I wish, however, to quote one case, as showing the advantage in the use of the saturated solution of chlorate of potassium in recent injuries when the suppuration is profuse.

Case.—H. B., male, aged 28, of fine muscular development. Received a penetrating lacerated wound of the arm, which severed the brachial artery. The hemorrhage was controlled by acu-pressure both above and below the wound. On the removal of the needles a large slough came away, and the suppuration was excessive and very exhausting. The solution of chlorate of potassium was used, the excessive flow of pus was checked, the fetor arising from it allayed, and the patient rapidly convalesced.

One word as regards the mode of operation of chlorate of potash thus used. I do not know that I am right, but my theory is as follows:

1st. Its astringent properties cause it to repress exuberant granulations, or to stimulate their growth when they are absent or ill-formed.

2d. As an antiphlogistic it moderates the inflammatory action.

3d. And this I regard as the most important: as an antiseptic it destroys and prevents the growth of bacteria.

This threefold action, I believe, meets all the indications for the local treatment of this troublesome class of afflictions. In conclusion, let me say that this use of chlorate of potassium is not my own discovery, but was suggested to me while *interne* at the Monroe Co. Hospital, by the attending physician, Dr. Azel Backus, of Rochester, who has used this treatment successfully in his practice for years.

THE MICROSCOPIC EXAMINATION OF URINE.

BY B. A. SEGUR, M.D.

At the October meeting, last year, I brought to the attention of this Society the subject of the prevalence of unrecognized chronic Bright's disease. The existence, particularly, of a latent, preparatory, forming stage of the disease, in which no deviation from usual health occurs, and to which no recognized sign, no warning signal, is assigned, was pointed out in most striking, emphatic language, quoted from, and the concurrent testimony of, the best authorities. It was also shown by the same testimony, and it is well known to every practitioner, that the early progress and not unfrequently the course of chronic Bright's disease, is equally insidious and unrecognized.

If the urine of every person who consults or is seen by a physician were examined for albumen, and if albumen were invariably present in the urine of persons subjects of the disease to which the name albuminuria is given, then our Art and Practice would be sufficient and clear.

Grainger Stewart writes: "Albumen is rarely present in any considerable quantity, and its presence fitful in its appearance and varying in its amount" in cirrhosis of the kidney.

"The simplicity of testing the urine for albumen, and so settling the question of the presence or absence of kidney disease, is so alluring, that many forget that it is only one symptom of renal disease." "The diagnosis of chronic renal disease during its quiescent periods *(that is, during the greater portion of its existence")*—the italics are mine—"is a matter involving much thought and care, much knowledge and observation, watchful attention and thoughtful pathological research, ere an opinion entitled to any weight can be reached; and yet there are those who will at once decide the matter by testing the urine for albumen, and if it be not present throw over forthwith all the other evidence—a plan calling for stern reprobation." "The man who would make the diagnosis of chronic renal disease turn on the presence or absence of albumen, is a man whose patient I should not like to be." "The silent progress of interstitial nephritis is often without albumen for long periods."—(Fothergill, "Hand-book of Treatment," pp. 395–6.

The professional experiences of the past year have added new examples of quickly fatal courses and terminations after late recognition in persons whose previous health was good, but who were subjects of chronic renal disease. In one of these the urine had been examined, and the

absence of albumen had misled the physician in his diagnosis. In two others albumen was absent and the disease progressed unrecognized until the vision became suddenly impaired. Quite recently I have seen two persons whose health was good until about three months ago dyspnœa, due to irregularity of the heart from associated hypertrophy, led to the investigation of the kidneys and the diagnosis of chronic renal disease. In these the urine gave all the usual evidences, in quantity, specific gravity, presence of albumen and renal tube-casts, of the disease. In several the only general form of cast found was the hyaline or transparent. This was uniformly the case in the examinations of the non-albuminous urines.

I therefore feel now more and more confirmed in the conclusion stated last October, " that the hyaline cast is a very early and important means of diagnosis—as early and significant in its relation to the kidney as the mucous râle is to the lung."

I think in every stage of chronic Bright's disease the hyaline cast is present in the urine; and in those preparatory states of the circulatory, digestive and organs of secretion and excretion which lead in time to organic changes in the kidney, it will also be found. I do not propose at this time to enter upon an inquiry as to the importance of hyaline casts, or their significance when found in the urine. I do not suppose that this or any other form of cast necessarily indicates structural disease of the kidney.

But whether albumen is or is not present, the microscopic examination is indispensable in any study of renal pathology. When hyperæmia of the kidney exists, the hyaline cast will, I think, invariably show it, and often there is no other sign or symptom. If, in the absence of other signs and evidences, we may conclude that no important or permanent renal changes have taken place, still we should in every such case look for, and we shall often enough find, associated with the hyaline cast, as the primary cause of the renal hyperæmia, valve disease or cardiac hypertrophy, atheromatous vessels, pulmonary emphysema, chronic pleuritic effusion, cirrhosis of liver, chronic catarrhs of bronchial, gastric or intestinal mucous membranes, stricture of urethra, renal calculi, the gouty habit, chronic alcohol or lead-poisoning, etc., etc., together with many vague or so-called functional disturbances of the nervous, digestive, and other systems.

Regarded in this light, the hyaline has a daily and increasing practical value in my observations, not impaired by the fact to which I wish to give its proper recognition, that renal hyperæmia, and so the hyaline cast, is most often as transient and insignificant as is the bronchial hyperæmia of a common cold.

In microscopical examination of urine of men in good ordinary health, in active life, with its vicissitudes dependent upon habits and pursuits, I have found one in four to have hyaline casts on one or more trials.

It has occurred to me so often to find renal tube-casts in urine submitted to me for examination, when others, physicians practiced in the use of the microscope, have reported no casts in the same urine or in other urine from the same persons, that I wish to submit to the Society the manner of my observations, so that those who are watching their patients and the families they attend for the earliest indications of renal affections, may, without too much expenditure of time, be certain that they have sufficiently sought for evidences afforded by the urine.

For, as is well known, the hyaline cast is not an abundant formation, compared with epithelial, fatty and granular casts, which are shed from the renal tubes in some forms of kidney disease as abundantly as the peeling after eruptive fevers. One or two hyaline casts are often all that can be seen after a well-directed microscopic examination.

Their transparency is spoken of as a reason why they are often overlooked. But I do not think, with the objectives at present offered by the best makers, it can be said there is any difficulty in seeing the so-called transparent casts.

It is the practice to take the portion for the microscopic slide with the pipette from the bottom of the urine. But urinary deposits are often *not* sediment, and I have many times taken portions from visible deposits floating near the surface or at various depths below, and found casts when the pipette, passed to the bottom, obtained none. Quite recently a member of our profession in the city of New York, of middle age, in apparent good health, who suffered a few months ago a slight impairment of vision, and then discovered that his urine contained albumen and had a specific gravity of 1008, sought the advice of a distinguished consulting physician, who recognized the facts so far as related, but did not find any casts. In the urine submitted to me, after standing eighteen hours, I saw a light cloud floating in the urine near the surface. This contained numerous casts, but none were found from the bottom.

Again, casts may not be found in the sediment after six hours' standing, when the sediment of the same urine after twelve hours more may yield them.

When the microscopic examination of a single drop has failed me, a second or third, or some successive search, has repaid the expenditure of time.

To save time and to make a thorough microscopic examination of urine, I have found the following plan advisable:

The urine to be examined is placed in a tall conical glass. After three to six hours it is inspected. From the visible deposits, whether floating or sedimentary, with the pipette a quantity is taken sufficient to fill a concave slide or a shallow cell.

This little pool is first searched with a four-tenths objective, and in a little time any cast or other microscopic object it contains is found. A more careful observation is made of the object thus found with the one-fifth. I have used for several years, with satisfaction, a Swift one-fifth with sufficient distance between the object and the lens to easily examine the depth of a concave slide. I have found much saving of time in examining six or more drops at once. I have represented this advantage to Mr. Wales, and he has produced this one-fifth which I have been working with for two or three weeks, and which I offer for your examination to-night, with this description by Mr. Wales. "The one-fifth has an angle of eighty degrees aperture* and a working distance of .06 or about one-sixteenth of an inch. It resolves pleurosigma angulatum perfectly and defines podura with equal satisfaction." I think this lens is especially interesting to physicians, because it adds to the usual requisite good qualities of definition, etc., the unusual working distance, as may be readily seen by looking at this mounted specimen through the thick glass slide, instead of through the thin glass cover.

When the examination of deposits has been made in this way, the conical glass of urine should be set aside (a little chloral may be added to prevent decomposition), and after twelve hours more the examination should be repeated.

Sought in this way, hyaline casts will be more frequently found than they have been hitherto, and then we shall obtain a better knowledge of the conditions in which they occur.

——LONGEVITY.—The average of human life is about thirty-three years. One-quarter die before the age of seven. Of every one thousand persons, one rarely reaches the age of one hundred years, and not more than one in a hundred will reach the age of eighty. There are on the earth 1,000,000,000 inhabitants. Of these, about 38,333,333 die every year; 91,824 die every day; 7,789 every hour, and sixty every minute. The married are longer-lived than the single. Tall men live longer than short ones.

*For physicians' uses this medium angle for the one-fifth, while it renders possible the increased working distance, is a positive advantage in focal depth, giving a distinct view at once of greater depths of urine or other object.

BROOKLYN PATHOLOGICAL SOCIETY.

Regular Meeting, Sept. 12th, 1878.

The President, Dr. F. W. Rockwell, in the chair.

CORPUS LUTEUM OF PREGNANCY.

Dr. Harvey presented, for Dr. Burge, the uterus and ovaries of a female dead of puerperal convulsions, occurring during the seventh month of pregnancy.

It was the second pregnancy.

The occurrence of signs of premature delivery, followed by uræmic convulsions, the urine being albuminous, led the doctor to dilate the os and deliver; which he did with the assistance of Doctors Bunker and McCorkle.

After delivery, the convulsions continuing, one-fifth grain of pilocarpine was administered hypodermically. This relieved all the symptoms for a time and the patient returned to consciousness. The convulsions returned, and further medication with pilocarpine, digitalis and oleum tiglii was of no avail. Death from asthenia took place 28 hours after delivery.

Autopsy.—The *kidneys* were contracted and capsules adherent.

The *liver* was congested and exceedingly friable.

The *uterus* was well contracted and normal.

Each *ovary* contained a *corpus luteum*. One was about 15 m. m. in the largest diameter and easily enucleated. The other was about one-half as large, irregular in shape and difficult of enucleation. Each had a cyst, containing serum in its centre.

Dr. Harvey alluded to the statement of Dalton (*Transactions of Am. Gyn. Soc., vol. II*), that if two corpora lutea of pregnancy are present, they should be of an appearance indicating the same date for both, and that the ovum from one has aborted. In this case they did not appear to be of the same age, as one was twice the size of the other, etc.

The cervical mucous membrane was demonstrated.

MAMMARY TUMOR.

Dr. Paine presented a tumor removed the previous day by Dr. J. C. Hutchison from a single lady, 30 years of age.

The tumor had been growing in the left breast for three years. No cause was discovered.

The family history was good.

Her general health is good.

Recently there has been a great deal of pain in the tumor.

No enlargement of the lymphatic glands. The whole gland was involved.

(Referred to Microscopical Committee).

In reply to Drs. Stuart and Mathewson, it was stated that no ulceration had taken place and that no injury of the breast was known to have occurred.

TUMORS OF LABIA MAJORA.

Dr. P. L. Schenck, of the Kings County Hospital, exhibited two large pediculated tumors of the vulva, removed by Dr. J. C. Hutchison.

The patient was a young Scotch woman who had primary syphilis six years ago. This was soon followed by enlargement, first of the left, then of the right, labium majus. The growth was slow until the last year, during which they increased in size very rapidly. They are flattened ovoids, with pedicles, and weighed after removal 1½ lbs., the left being somewhat the largest.

(Referred to Microscopical Committee.)*

Dr. Rockwell remarked that the usual site of syphilitic growths of the vulva were the labia minora.

RESECTION OF KNEE-JOINT.

Dr. Schenck also presented the patella, condyles of the femur and head of the tibia from a case in which he had resected the joint.

The patient, a male, aged 35, Ireland, had experienced pain in the joint one and a half years ago. About four months ago abscesses formed with external openings.

The incision made was the U-shaped one of Mackenzie.

The articular surfaces were very much eroded, with almost complete disappearance of the articular cartilages, only a small portion remaining on the external condyle. The inner surface of the patella was greatly eroded. The cancellous structure of the bones presented the softening and fatty degeneration of an advanced stage of white swelling. The origin of the inflammation was not traumatic. Since the operation the temperature has not exceeded 101° F. The general appearances on the seventh day seem to indicate recovery.

SUBMUCOUS UTERINE FIBROID.

Dr. Segur presented a tumor about the size of a heart, with the following history:

A married woman of 34 or 35 years; six children, the youngest five years of age. Two years ago she noticed an enlargement in the abdo-

*A full report of this case will appear shortly in the Philadelphia *Medical and Surgical Reporter*.

men. It increased in size, and was associated with irregular and considerable metrorrhagia. It was painless, and her general health did not suffer until last March. Dr. S. saw her about two months ago, and found a tumor extending above the umbilicus and having three protuberances. It was immovable. No vaginal examination was made.

At this time she was very anæmic, unable to move about, and had nausea and vomiting. He prescribed a suitable regimen, and administered ergot, iron and quinine. Improvement for one month, at the end of which time a protrusion began to appear from the vulva, accompanied by a fetid purulent discharge. The protrusion became so great as to compress urethra and make catheterization necessary.

Drs. Byrne and Gillett saw the case, and Dr. Byrne operated, removing the growth, which was attached to the posterior lip of the cervix, with the galvano-caustic wire. The operation occupied one hour. There was no hemorrhage. She was so weak that the cavity of the uterus was not explored.

(Referred to the Microscopical Committee.)

☞The Secretary requests members who present specimens to present therewith a *written* account of the case and pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides.

Address, Curator of Pathological Society, care of B. F. Westbrook, Secretary, No. 279 Clinton Street, Brooklyn.

B. F. Westbrook, *Secretary.*

——Cause of Infant Deformities.—A Manchester (Eng.) physician, Dr. Crompton, who has made a study of the care of infants, gives some information of great importance to mothers, in regard to the cause of the common deformities known as bow-legs and knock-knees. He attributes the first-mentioned distortion to a habit some youngsters delight in, of rubbing the sole of one foot against that of the other—some, as is well known, will go to sleep with the soles pressed together; they appear to enjoy the contact only when the feet are naked, not attempting to make it when they are socked or slippered. The remedy, therefore, is simply to keep the child's soles covered. Knock-knees the doctor ascribes to a different childish habit, namely, that of sleeping on the side, with one knee tucked into the hollow behind the other—a custom familiar to the observation of most parents. Here the preventive prescribed is to pad the inside of the knees, so as to keep them apart, and let the limbs grow freely their own way.

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——CONTRIBUTIONS OF MEMBERS OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS, TO THE RELIEF OF SUFFERING PHYSICIANS IN THE YELLOW FEVER-STRICKEN SOUTH-WEST.

MEDICAL SOCIETY OF THE COUNTY OF KINGS,
Brooklyn, N. Y. Aug. 29, 1878.

DEAR DOCTOR :

The following was received this morning :

Brooklyn, N. Y., Aug. 28, 1878.

ALEX. HUTCHINS, M.D., Pres. Med. Soc. Co. Kings,

DEAR DOCTOR :

Can we not raise among our active members $300 or more, and forward the same for the personal relief and comfort of our *Medical Brethren* in the plague-stricken cities, whose incomes are cut off, and who must be greatly in need of funds. We might send the same to some responsible physicians at Vicksburg, New Orleans, etc.

A circular or special meeting of our Society ought to raise a nice sum. I enclose check for $10 to the amount.

Yours respectfully,
LEWIS D. MASON,
173 Joralemon Street.

Acting on this suggestion, I appeal to your sympathy and liberality. The generous note above needs no comment from me. The time for your action is now. Any contributions sent to me will be forwarded under the advice of the Council of this Society, and will be acknowledged in the "Proceedings."

Very sincerely yours,
ALEX. HUTCHINS, M D.,
President Medical Society County of Kings,
796 DEKALB AVE., BROOKLYN, N. Y.

In response to the above circular letter, the following contributions, amounting to $515, have been received to date :

	Dolls.		Dolls.
DRS. H. J. Babin,	10	DRS. T. P. Corbally,	5
G. W. Baker,	10	J. P. Colgan,	5
J. H. Barber,	5	J. T. Conkling,	15
W. H. Bennett,	5	F. C. DeMund,	5
G. W. Brush,	5	W. H. Dudley,	20
S. Candidus,	2	A. J. Dowen,	2
A. W. Catlin,	10	G. A. Evans,	1
E. N. Chapman,	10	N. W. Leighton,	5

	Dolls.
Drs. H. Loewenstein,	5
L. D. Mason,	25
T. L. Mason,	25
A. Mathewson,	5
N. and W. B. Matson,	5
J. B. Mattison,	5
C. R. McClellan,	10
C. L. Mitchell,	10
C. Olcott,	10
S. H. Olmstead,	5
W. H. B. Pratt,	5
J. S. Prout,	10
J. R. Quinn,	2
J. C. Rappold,	10
H. C. Rogers,	3
H. N. Read,	5
S. Santoire,	5
P. L. Schenck,	10
B. A. Segur,	10
A. W. Shepard,	25
S. Sherwell,	2
G. R. Fowler,	10
J. N. Freeman,	5
T. Frickenstein,	5
S. E. Fuller,	2
C. H. Giberson,	25
S. C. Griggs,	6
E. A. Groux,	2
A. C. Hallam,	10

	Dolls.
Drs. J. Harrigan,	5
E. J. Harvey,	5
G. G. Hopkins,	5
A. Hutchins,	5
J. C. Hutchison,	10
J. A. Jenkins,	2
G. F. Ketcham,	2
J. Krauter,	5
G. R. Kuhn,	5
A. J. C. Skene,	10
J. C. Snively,	10
F. H. Stuart,	3
A. Stub,	3
J. D. Sullivan,	5
C. A. H. Szigethy,	5
W. H. Thayer,	10
J. R. Vanderveer,	10
J. VanNess,	5
H. B. White,	2
J. A. White,	3
L. J. Williams,	5
L. A. Willis,	3
W. Wallace,	10
J. L. Zabriskie,	10
Wm. Govan, Stony Point, N. Y.,	5
Henry Welldorf, drug-gist, 376 Grand Street, E. D.,	5

The matter of distributing this fund was laid before the Council, whose opinion was, that inasmuch as specific wants among physicians, or among the families of physicians who had fallen victims to the pestilence, might be more manifest after the subsidence of the epidemic, it would be judicious to wait; and the wisdom of this opinion was confirmed by a letter received from Doctor R. W. Mitchell, of Memphis, of which the following is a copy:

HOWARD ASSOCIATION,

No. 233 Second Street, Memphis, Tenn., Sept. 6th, 1878.

MY DEAR DOCTOR:

Your kind letter of third inst. received. Keep funds until later; would not have time to distribute now. Howards will supply immediate wants. Either way of sending would do now; don't know how it will be a week hence. Only one hotel open; drug stores all closed but four or five; some or all of them will close soon. All

but one man in the express down. Only two or three family grocery establishments open. Have been through several epidemics, but this is the most frightful I have ever seen. Several volunteer physicians now sick—some will die. I have not invited any one to come who has not had yellow fever—the risk is too great. When they do come on and are willing to stay after I have explained the *great* danger of remaining, I give them plenty of work to do. One hundred more could not give the attention to those sick now, that this disease requires. It runs its course rapidly, and requries constant watching, to obtain satisfactory results. Over five hundred new cases to day.

With gratitude for this exhibition of substantial sympathy from our distant brethren,

I am, yours truly,

R. W. MITCHELL,

Medical Director Howard Corps.

Under the advice of the Council, this fund will be placed so that it may be applied to the specific relief contemplated by the donors.

This money is now on deposit in the East Brooklyn Savings Bank, "in trust for the Yellow Fever Fund of the Medical Society of the County of Kings."

The fact that so many of these remittances have been accompanied by a note stating that the subscribers had already contributed to the general fund, renders it proper to re-state the fact here.

Acknowledgment is made to WHEAT & CORNETT, printers of the PROCEEDINGS, for their promptness in preparing the above circular, for which they declined to make any charge.

——THE POROPLASTIC SPINAL JACKET.—In the *Lancet* (London) of August 31st, 1878, is a communication from Dr. Hutchison, of this city, under the above title. We reproduce the note, partly from its intrinsic interest, and partly to correct the bad manners of the editor of the *Lancet*, in misspelling the name of its correspondent :

SIR : In your issue of July 13th there appears a note from Mr. Fred. R. Fisher, under the title of a "New Form of Spinal Jacket," in which he describes the use of what he calls Cocking's patent poroplastic felt. The same, or a similar material, has been used at the Brooklyn Orthopœdic Infirmary for the last two years. The first spinal jacket of this material was applied there on September 15th, 1876, at my suggestion; been in constant use, not only in cases of spinal caries, but as splints for fixing the hip and knee joints, and other orthopœdic cases.

But my object is not so much to consider the question of priority as to confirm Mr. Fisher's estimate of the dressing, which he uses very much in the manner that we use it.

The felt, or, as it is also called, shell-lac cloth, which we first used, was the same as used by hatters in making the brims of stiff hats; but of late a heavier kind has been used for our purposes.

I may be permitted to describe the manner in which it should be applied. The patient being suspended in Sayre's swing, the following measurements should be taken, and the splint cut according to them :—(1) From a point one and a half inches to one side of the linea alba, on a line with the anterior superior spinous process of the ilium, around the back of the pelvis, to a corresponding point on the opposite side. (2) From a point one and one-half inches to one side of the middle of the sternum, around the back of the thorax, to a corresponding point on the opposite side. These measurements will leave a space in front for lacing. (3) From the seventh cervical vertebra to the top of the sacrum. Slits are cut in the lower edge of the splint an inch long and two or three inches apart, so as to allow the lower part to mould itself more accurately to the pelvis, and thus get a better base of support. It should be cut away under the arms. The chest is now covered by a well-fitting woolen shirt or flannel bandage, the patient suspended. The felt, made pliable by dry heat or steaming, or by immersion in very hot water, is quickly applied, and covered with a bandage from below upwards, very firmly, so as to mould it to all the inequalities of the surface. The splint almost immediately regains its inflexibility; it may then be removed, trimmed up, and holes punched along the front edges for lacings, as advised by Mr. Fisher, and re-applied. Two brace-straps may be attached to the top edge of the splint, which cross over the shoulders and buckle in front. The splint may be made more comfortable in hot weather by perforating here and there with a punch.

The splint for a child weighs only eight to twelve ounces, very much lighter than a plaster-of-Paris jacket, is comfortable, more cleanly, and more easily applied, while it fulfills all indications that can be accomplished by the plaster-of-Paris jacket of my friend, Dr. Sayre.

Yours respectfully,

JO. C. HUTCHISON,

Surgeon-in-Chief Brooklyn Orthopœdic Infirmary.

Brooklyn, N. Y., August 1, 1878.

——— SAMUEL HART, A.M., M.D.— This venerable Christian physician, who has passed in and out among us so many years, died September 3d, 1878, at the ripe age of 81 years, 9 months and 6 days. Less than one week before, his exceedingly slight figure was seen by many of us, as he moved through our streets, still pursuing the duties of the profession which he loved with an ardor seldom equalled and never excelled. He was an indefatigable pedestrian, discarding almost entirely all aids to locomotion, except the cane, which he carried for half a century. This constant exercise, together with strict temperance and sobriety, purchased for him a remarkable immunity from disease, and even the *last record* shows no stronger reference to a pathological condition than is found in the expression, *senile asthenia.*

Dr. Hart was born in Wakefield, Mass., November 27th, 1796. His father, John Hart, was a physician of note, who served as surgeon in the American Revolution, in General Prescott's regiment. He was at the battle of Bunker Hill, and continued in the service till the close of the war. Afterward he held the position of magistrate and was a member of the Massachusetts Legislature thirteen years.

Samuel Hart, the subject of this minute, was his youngest son, and was liberally educated in both the literary and medical departments of Harvard University, taking respectively the degrees of A. B., A. M. and M. D., in the years 1817, 1820 and 1821. He practiced until 1828 in Beverly, Mass., whence he removed to Oswego, N. Y.; became a member of the Oswego County Medical Society in 1829; was afterwards one of its Censors, then its Recording Secretary, and for one year its President.

In 1855 Dr. Hart removed to this city, where he has devoted himself to medical practice almost without interruption. He was elected to membership in this Society in 1858; became a Censor in 18—, which office he filled, at intervals, during eight years; and in 1862 he was elected President.

Dr. Hart was made a Fellow of the Massachusetts Medical Society in 1824; and in 1857 a permanent member of the New York State Medical Society. He was also a member of the American Medical Association; the Massachusetts Society of the Cincinnati; the Long Island Historical Society. Dr. Hart was not only a man of strict moral integrity, but an ardent disciple of Christ and a consistent member of the Presbyterian church. So strict was his sense of justice, that he could not brook any departure from professional ethics. With him *esprit du corps* was always dominant; and one of the last expressions of his life was in these words: "I love the profession to which I have given so many years of thought, and to which I gave my son John, who died so full of promise." He then pledged to the Medical Society of the County of Kings nearly all of his medical library, and, in consonance with his desire, a committee was appointed at the August meeting of this body to receive and properly convey this valuable bequest.

In social life Dr. Hart was in the best sense domestic. He married, in 1823, Miss Charlotte Newell, of Boston, who still survives him. One daughter, and one son (now a druggist in Boston), are all that remain of five children. He was honored and beloved in his own house, esteemed and trusted by his friends and patients, and respected by the whole community. The virtues of such a man are worthy of record, and of emulation by those who succeed him.

J. H. HOBART BURGE, M.D.,
THEODORE L. MASON, M.D.,
WILLIAM W. REESE, M.D.,
Obituary Committee, appointed September 17, 1878.

——London Practitioners and their Fashions.—How curious it is to note the way in which the neat doctor's brougham has taken the place of the pretentious vehicle in which our predecessors were wont to travel solemnly about the streets of London. I wonder how many of the present mourning coaches were in their gay youth the yellow chariots of fashionable consultants.

The late Sir William Fergusson and the late Mr. Baker Brown both drove yellow chariots; and I believe, at one time, yellow chariots were thought to be quite the thing for doctors, as were white neck-handkerchiefs and black clothes. Dr. James Bird was one of the last of consulting physicians who adhered to the "white choker" in day-time. At last it came to be considered as looking too much like an undertaker or a head-waiter. Moreover, we have most of us agreed that we will not wear any "badge of our profession;" and doctors may be seen in every variety of morning costume. Some even take a delight in country coats and round hats; but generally the costume of a doctor resembles now, in all respects, that of any other civilized being at the same time of day.

Perhaps we shall come in time to leave off advertising ourselves altogether, and not even put brass plates on our doors. Some of the consulting men at the West-end reduce their plates to the smallest dimensions, and render the engraved name almost illegible, as if they were ashamed of it. In that case, why put a plate on the door at all?

It is not fashionable for consulting men to hang out colored lamps, and a colored lamp at night is what a brass plate is by day. At one time noblemen were accustomed to put their names on brass door-plates; but except the Earl of Powis, I think, in Berkeley Square, and the Earl of Warwick, in St. James' Stable-yard, they have all left off the practice. Lord Powis' opposite neighbor in Berkeley Square, Sir James Alderson, has, I think, the smallest brass plate among physicians. It is a distinction so easy to imitate, that now it is mentioned he will perhaps have many followers and rivals.—*London Medical Examiner, July 25th.*

——A Deceptive Patient.—A story is told in the *Revue Médicale de l'Est* of a patient who lost his life by deceiving his doctor. The man was suffering from lead-poisoning. The physician, oddly named Professor Forget, prescribed strychnia pills, which produced no effect. The dose was increased successively to two, three, five and six pills, without any result. Finally the doctor ordered the patient to take five pills in his presence. The man did so, and died within two hours. After his death all the pills previously prescribed were found secreted behind his bed.

——A Milk Test.—A German paper gives a test for watered milk, which is simplicity itself. A well-polished knitting needle is dipped into a deep vessel of milk, and immediately withdrawn in an upright position. If the sample is pure, some of the fluid will hang to the needle; but if water has been added to the milk, even in small proportions, the fluid will not adhere to the needle.

——Analysis of Adulterated Butter.—The City Chemist of Cleveland, Dr. Claassen, in a recent report on butter adulterated by mixture with lard, gives a simple method of testing for this fraud. The suspected butter is melted, and about fifty grains of it poured into a test tube. When this is cooled to the temperature of the human hand, there is to be added, mixing slowly by agitation, 120 grains pure sulphuric acid. If the butter is pure, the mixture will at once become yellow, and afterward a bright yellowish red. If lard is present, the mixture will pass from the color last named, to brownish red, brown, and, perhaps, brownish black. Turmeric or annatto is frequently used to color adulterated butter. To detect either of these dyes the butter should be melted and shaken with twice the quantity of alcohol. The butter having subsided, the dye, if any is present, will appear above, in solution, in the alcohol, and tint it yellow; but from pure butter, no color will be extracted.

——Kings County Lunatic Asylum.—After some stirring litigation in the courts, Dr. J. C. Shaw has secured his appointment as Medical Superintendent of this Institution. He desires it to be known that he will be at his office, 184 Remsen Street, on Monday, Wednesday and Saturday of each week from nine to twelve.

——The American Academy of Medicine met September 17th at Easton, Pa. Dr. Chas. McIntire, of Easton, delivered the address of welcome to the body, and Dr. Wm. C. Cattell, President of Lafayette College, tendered the use of Pardee Hall during its session, and extended a cordial invitation to visit and examine the college buildings and grounds. The convention was then called to order by the President, Dr. Frank H. Hamilton, for the transaction of business of the Academy. Fifty new members were elected, all of them being either practitioners of prominence or editors of standard medical journals.

The Academy was organized in Philadelphia, September, 1876, having for its objects:

1st. To bring the Alumni of collegiate and medical schools into closer relation with each other.

2d. To encourage young men to pursue regular courses of study in such institutions before entering upon the practice of medicine.

3d. To extend the bounds of medical science, to elevate the profession, to relieve human suffering and prevent disease.

On the list of membership we notice the names of Drs. Beard, Hutchins, Dodge, Vanderveer, Schenck and Baldwin, of Brooklyn.

The next annual meeting of the Academy will be held in New York city on the third Tuesday of September, 1879.

——Pocket Therapeutics and Dose-Book. By Morse Stewart, M. D. Detroit, Mich. 100 pp. Price 50 cents.

——The Temperature of the Human Body.—The human temperature is not one degree higher in the tropics than elsewhere, as is commonly taught, but is the same in all latitudes. As a result of many thousands of observations on the temperature of the white man in various climes, with shade temperatures as high as 105° F. and as low as 20° below zero, I have been led to the conclusion that the normal axillary temperature of the healthy adult is between 98° and 99° F.; in fact, it seems to me that this temperature is as valuable and as constant a characteristic of his human identity as is the structure of his bones.—Surgeon-Major Boileau. *Lancet, Louisv. Med. News.*

——Novel Use of the Telephone.—The most singular application of the telephone comes from New South Wales, where Mr. Severn, an enthusiastic experimenter, claims that he has made the deaf to hear with it. After describing a very simple telephone which he constructed out of a tin pot, the closed end of which he opened and tied over it a piece of parchment, passing a fine string through the centre and making a knot inside, Mr. Severn says: "Make a loop in the string some three feet long, put this loop over the forehead of the listener (the deaf man), cause him to place the palms of his hands flat and hard against the ears, let the loop pass over the hands, and now this listener will hear the smallest whisper, let him be deaf or not. This fact may appear extraordinary; it is, nevertheless, true that a deaf man may thus be made to hear the voice, music, etc."

——What makes a Good Expert.—The tests of scientific expertness are—distrust of the senses; the recognition of the relation of induction to deduction; avoidance of all sources of error, in observation, experiment, or reasoning; the appreciation of the relative importance and non-importance of real or supposed facts; the ability to distinguish reality and its semblance, especially between the subjective and the objective; and, what indeed follows from the other three tests, the maintenance of mental equilibrium during experimental researches. The reputation of an expert is acquired primarily through other experts, and

secondarily through the judgment of mankind. Expertness has its various degrees; there are experts, and experts, and experts: the highest experts are the originators, the explorers, the pioneers, the founders, the creators of science; the lowest experts are the followers, the gleaners, the treasurers, the curators of what others have discovered, and who simply repeat and retain the experiments of genius. The highest experts—the Newtons and Galileos, the Harveys and Jenners of science—must stand at first alone, with no other expert at hand, by which to estimate their relative heights and strength; it is their necessity and their glory to educate experts, by whom their own merits are to be tested; they must create the standard by which they are to be judged; their critics will be their own offspring.—Dr. George M. Beard, *in Popular Science Monthly for July.*

——Unintentional Suicides.—Drowning and hanging, then, are painless modes of dying, because the asphyxia which causes death is complicated by other circumstances which render the dying man so soon unconscious that the pangs of suffocation are unfelt. And the insensibility which results from hanging is so insidious and painless in its approach, that experiments on the subject are very dangerous for any one to make alone. It is probable that many persons, who are supposed to have committed suicide in this way, had really no intention of bringing about their own death. Some have been led, like the two gentlemen mentioned by Morgagni, to try the experiment out of curiosity. Others may have done it out of pique. It is not impossible, nor perhaps improbable, that high-spirited boys or girls, after a degrading punishment, should rush off, as we read of their doing, and hang themselves. The child puts a cord around his neck, and steps off from a chair, expecting to be followed, found choking, and released by the anxious parents. If he is not followed and his absence not noticed, nothing can be easier for him than to step up on the chair again, loosen the rope, and no one will ever know of his folly. In the first case he would obtain his childish revenge for the wrong he had received, and in the second case he would lose nothing, for he is his only accomplice. But the laws of nature are too stern. He experiences the fate of poor Scott, above related. Utterly ignorant of his danger, and intending only a prank of childish folly, he steps from his chair into eternity. Such a possibility should make us charitable, and in cases of suicide by hanging, lead us to remember that, although the case may be evidently one of suicide, and the hanging plainly intentional, nevertheless the death may have been undesired and unlooked-for.—Dr. R. S. Tracy, *in Popular Science Monthly for July.*

——Unequal Femora.—A physician of Philadelphia has been measuring the femora themselves, after post-mortem dissection. He finds that there is frequently a normal inequality between the two thigh-bones of the same cadaver. This is a kind of testimony which will be readily accepted by many who are inclined to be skeptical concerning measurements in eighths-of-an-inch made on the live subject. The dimensions of the respective *bones* will have the deciding weight in this important medico-legal problem.

——The Habitual Magnanimity of the Profession.—There is no class of men who so consistently "cut their own throats," so to speak, as the doctors. No class of men are so willing, nay, so eager, to give up their own advantage if they can only secure thereby the public good. A sharp epidemic of small-pox would bring thousands into the doctors' pockets, and yet it is the doctors who are the chief and the most persevering advocates of vaccination, when a little supineness on their part would soon leave the public unprotected. Nothing is more paying to the practitioner than a long case of typhoid, or a well-to-do family down with scarlet fever, and yet it is the medical profession which is most eloquent in preaching the sanitary gospel. A nice little income may be derived from the disorders incidental to young men, and yet the doctors are the only class who unanimously hold sound opinions on the Contagious Diseases Acts question. Cases of delirium tremens, again, are windfalls to the struggling practitioner, but he is doing all he can to abolish such cases forever. It is hardly necessary for us to add further instances of the single-mindedness which so laudably distinguishes the medical practitioner; it is enough to say that the whole profession would, with one voice, cry out against one of their members who was caught in the act of preferring his own advantage to that of his patient, and that more than once doctors have been openly disavowed by their *confrères* on the mere suspicion of such conduct.—*London Med. Exam.*, Aug 1.

——Seaside Homes.—The time for the closing of these institutions of relief has come, and we will presently know the numbers of those relieved; but the amount of benefit achieved is not to be expressed in figures. . . The *Harper's Weekly*, September 7th, has a series of illustrations sketched at the Coney Island Home for Children.

——Sewer Gas.—Among the many disorders which may arise from the effluvia of drains and sewers, two have been recently mentioned in the English journals for the first time, viz.: abscess of the cervical glands, and a tendency on the part of ulcerated surfaces to become sluggish and to yield to no ordinary management. Sometimes these ulcers take on a diphtheritoid appearance.

——Dr. Seaton on Re-Vaccination.—Generally speaking, the best time of life for re-vaccination is about the time when growth is completing itself, say from fifteen to eighteen years of age; and persons in that period of life ought not delay their re-vaccination till times when there shall be a special alarm of small-pox. We are strongly of opinion that there would be a great deal more re-vaccination if the family medical man always made a point of drawing the attention of parents to the necessity of their adult children being re-vaccinated. We feel certain that as a rule medical men neglect to do this, little thinking how, by insisting on the repetition of the operation, they have it in their power to starve, and therefore to weaken the force of any future epidemic of small-pox.—*Report to the Local Govt. Board.*

——Influence of Gaslight on the Eye.—The German Minister of Instruction has recently issued a report on the influence of gaslight on the eye. The conclusion arrived is that no evil results follow a moderate use of gas, if the direct action of the yellow flame on the eye is prevented. For this purpose screens or shades are employed. Grave objections, however, exist to the use of zinc or lead shades, most evils affecting the eye being traceable to them. Their use, it is said, inevitably tends to blindness or inflammation, and other harmful effects. The milky-white glass shade is the best, as it distributes the light and has a grateful effect on the eye. The burner should not be too close to the head, as congestions of the forehead and headaches result from the radiated heat. The glass plate below the gas, employed in some places, is especially useful for the purpose, as it causes an equal distribution of the light—necessary where a number are working at one burner—prevents the radiation of heat, and tends to a steady illumination by shielding the flames from currents of air. In cases of highly inflamed eyes, dark blue globes can be very beneficially employed. With precautions of this kind, no evil effects from the burning of gas need be feared.

——Dr. Hart's Library.—One of the last acts of Dr. Hart's life was to donate to the Society the whole of his valuable library, and arrangements are in progress for its transfer to the Rooms.

——N. Y. State Society Transactions for 1878.—Copies of this volume can be obtained of Dr. G. G. Hopkins, the Treasurer, at the rate of $1.22 a copy.

——Caution.—One of our Brooklyn physicians has printed at the bottom of his prescription paper, "*Not to be renewed unless specially ordered.*"

——The Bills of Members who have not paid their dues have been put in the hands of Mr. George Duncan, and it is hoped that they will be paid him promptly, as the Treasurer needs the money to meet appropriations already made by the Society.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The October meeting will be held on the 15th, at which time there will be presented the following papers:

A Case of Tracheotomy, by Dr. H. N. Read.

Anomalous Cases of Locomotor Ataxia, by Dr. J. C. Shaw.

Bony Anchylosis of Hip-joint treated by Subcutaneous Osteotomy, by Dr. J. C. Hutchison.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

OFFICERS AND COMMITTEES FOR 1878.

President.....Alex. Hutchins, M.D., 796 De Kalb Ave.
Vice-President.....C. Jewett, M.D., 310 Gates Ave.
Secretary.....R. M. Wyckoff, M.D., 532 Clinton Ave.
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DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

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Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

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PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, OCTOBER 15, 1878.

A CASE OF BONY ANCHYLOSIS OF THE HIP-JOINT TREATED BY SUBCUTANEOUS OSTEOTOMY OF THE FEMUR.

BY J. C. HUTCHISON, M.D.

The operation performed on the patient whose case I am about to report, is one of the latest achievements of conservative surgery. It was devised by Mr. William Adams, of London, and performed by him for the first time in 1869. The latest statistics of the operation are those furnished by Mr. Adams in his paper read before the Surgical Section of the British Medical Association, August 7th, 1878. He says the total number of cases operated upon were thirty-three, of which number three died; one from pyæmia, and in two others deep suppuration contributed to a fatal termination after many months. Six of the thirty-three operations, all successful, were done by American surgeons, viz.: one by Prof. H. B. Sands, of New York; three by Dr. Ashhurst, of Philadelphia, who had also three times successfully performed Gant's operation (division of the shaft of the femur below the trochanters); one by Dr. H. Lenox Hodge, of Philadelphia, who subsequently performed Gant's operation upon the same patient; and one by Dr. Broome, of Moberly. The operation here reported makes the seventh performed in this country, all of which were successful, making a total of thirty-four recorded cases.

Jacob S., aged 27 years, of fair constitution and good habits, entered the Kings County Hospital, Flatbush, June 15th, 1878, to be treated for bony anchylosis of the hip-joint.

He gave the following history of his case: About thirteen months prior to admission he went to bed one night as well as usual, but at three

o'clock in the morning was awakened by great pain in both lower extremities, which were, as he expressed it, drawn up to the body. The left was soon relaxed, and the pain concentrated about the right ankle, and an abscess formed in that vicinity; this was followed by another abscess near the knee, both of which spread spontaneously. Nine months after the attack began, during which time he was confined to the bed and treated by several physicians for rheumatism, he was seen by Dr. R. W. Hutcheson, of Queens County, N. Y. The pain was so great at this time, that the doctor found it necessary to anæsthetize him, in order to make a satisfactory examination. He was lying on his right side, with his legs drawn up, and they had been in this position for about six weeks. A large abscess over the sacro-iliac synchondrosis was opened and injected daily with a solution of carbolic acid; cod liver oil, with a proper regimen, was ordered, under which treatment he improved rapidly, and was soon able to sit up. From this somewhat imperfect history, I concluded that the anchylosis was due to pyæmic inflammation.

When he entered the hospital, the thigh was flexed at nearly a right angle to the body, and abducted as shown in the photograph taken before the operation (Fig. 1), and the leg could not be completely extended upon the thigh. He walked with one crutch and a cane, and it was impossible for him to touch the floor with his right foot. Eschars were noticed near the right ankle, knee and sacro-iliac junction. I examined the patient under the influence of ether and found that the anchylosis was bony; no amount of force that could be safely applied produced the slightest motion in the joint.

On the 27th of June, 1878, after a consultation with the Medical Superintendent, Dr. P. L. Schenck, I performed subcutaneous division of the neck of the femur, in the presence of Drs. J. M. Minor, Zabriskie, Rockwell, Barber, Chas. Jewett, Williams, Paine, Rand, and others. A long straight bistoury was entered just above the great trochanter and carried straight down to the neck of the bone. The knife was withdrawn, and the narrow saw with a long slender shank devised by Mr. Adams was carried flatwise along the track made by the knife directly down to the bone, and then across the anterior surface of the neck; the edge was now turned upon the bone, and its section accomplished at right angles to the axis of the neck in three and a half minutes. Little or no hemorrhage followed, and the wound was closed at once by a strip of adhesive plaster.

After the bone was cut through, the leg was straightened and could be freely moved in all directions; but, in order to overcome the abduction, it was found necessary to divide the tendons of the tensor vagina femoris and the long head of the rectus. This puncture, which was followed by

tolerably free hemorrhage, was also closed by adhesive plaster. A pad of oakum was applied over both openings and held firmly in position by a spica bandage. The patient was put to bed and extension made by weight and pulley without suppuration, or even swelling or redness of the skin, and little or no constitutional disturbance followed the operation.

The extension in bed was kept up for two weeks, when he was put into Darrach's Wheeled Crutch, the sound limb being elongated by a patten, so as to suspend the diseased limb and allow it to produce extension by its own weight, and also to be moved at the point of section, in order to prevent union taking place. With these appliances he moved about the ward and corridors with perfect ease and comfort. One month after the operation he walked well with common crutches, and the night extension was discontinued.

When he left the hospital, Sept. 28th, 1878, he walked comfortably with a cane; without a cane he limped, on account of pain in the left ankle; the foot was somewhat everted. In the erect position he carries his right foot forward, eighteen inches; backward, twenty-six inches; inward across the well foot, twelve inches; outward, twenty-six inches. The right limb is two inches shorter than the left, but it seems longer, on account of the obliquity of the pelvis towards the affected side; a false joint clearly exists at the point where the bone was divided, and he sits upright with perfect comfort. The photograph (Fig. 2) was taken the day before he left the hospital. The patient has steadily improved in walking during the past month, and there is every reason to suppose that the improvement will continue. Whether bony anchylosis may not take place at the false joint it is impossible to say; indeed, I am not sure that this result would not give a more useful limb. The history of the cases collected by Mr. Adams show that notwithstanding the persistent use of passive motion to prevent bony anchylosis, it frequently took place, in some cases after motion had been maintained for several months.

The operation which I have described commends itself to the surgeon both on account of its simplicity and safety. It is a subcutaneous operation, the wound behaving as well and healing as readily as a simple tenotomy; indeed, I have seen more local disturbance from an ordinary tenotomy than occurred in the above case. It will, I am sure, entirely supplant *brisement forcé*, which sometimes renews the old inflammation in the joint; and the forcible breaking of the femur below the trochanters, which is attended with contusion of the soft parts and injury to the old seat of inflammation, and also the more dangerous operation of Dr. J. Rhea Barton, or Sayre's modification of the same, which require free external incision.

I desire to call special attention to one point in the after treatment of

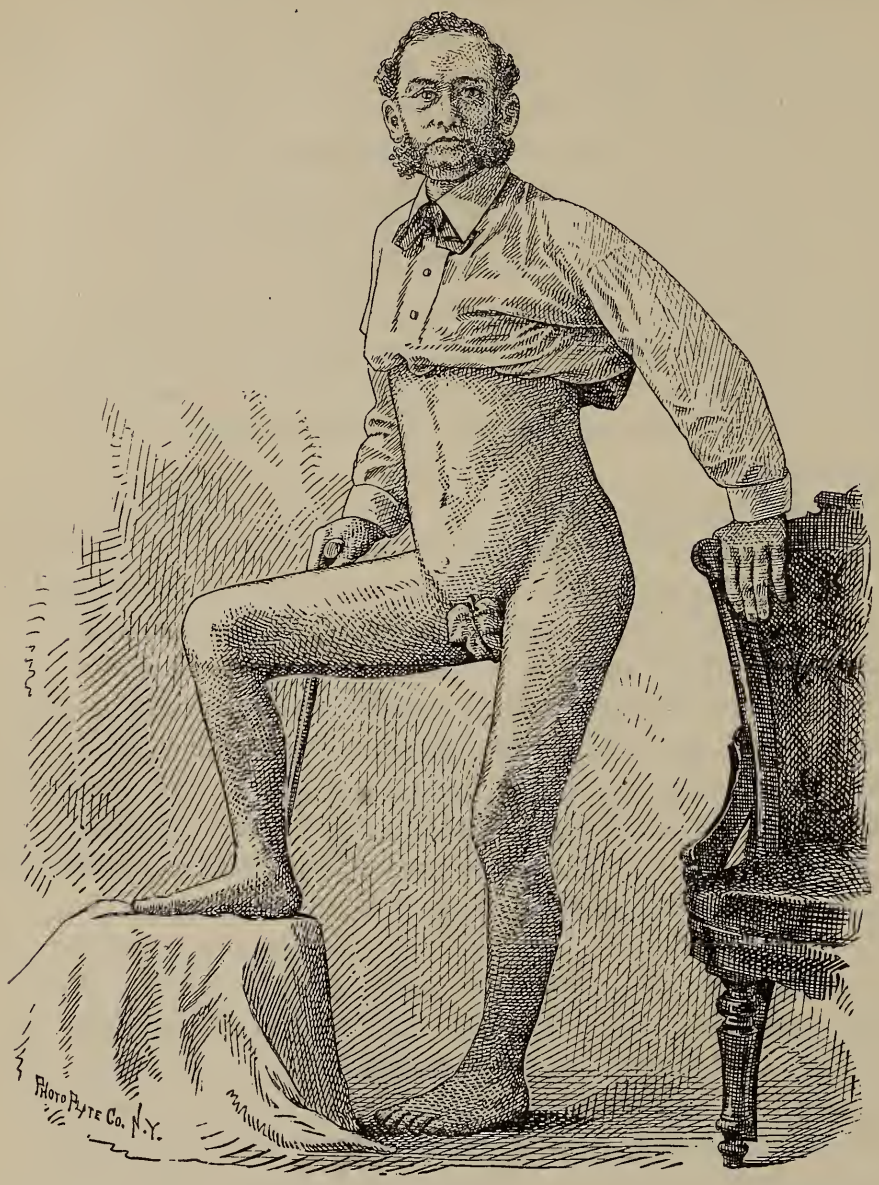

Fig. 1.

the case to which I attach considerable importance. It is this—that the patient was kept in bed only two weeks ; when, the immediate effects of the operation having subsided, he was put upon crutches, with a patten under the sound leg high enough to suspend the diseased one, and allowed to go about as much as he pleased. The advantages of this treatment were, that the patient was made vastly more comfortable, while the weight of the suspended limb gave all the extension that was necessary, and that we are more likely to get an artificial joint than if the patient had been kept in bed longer, and extension applied by means of the weight and pulley.

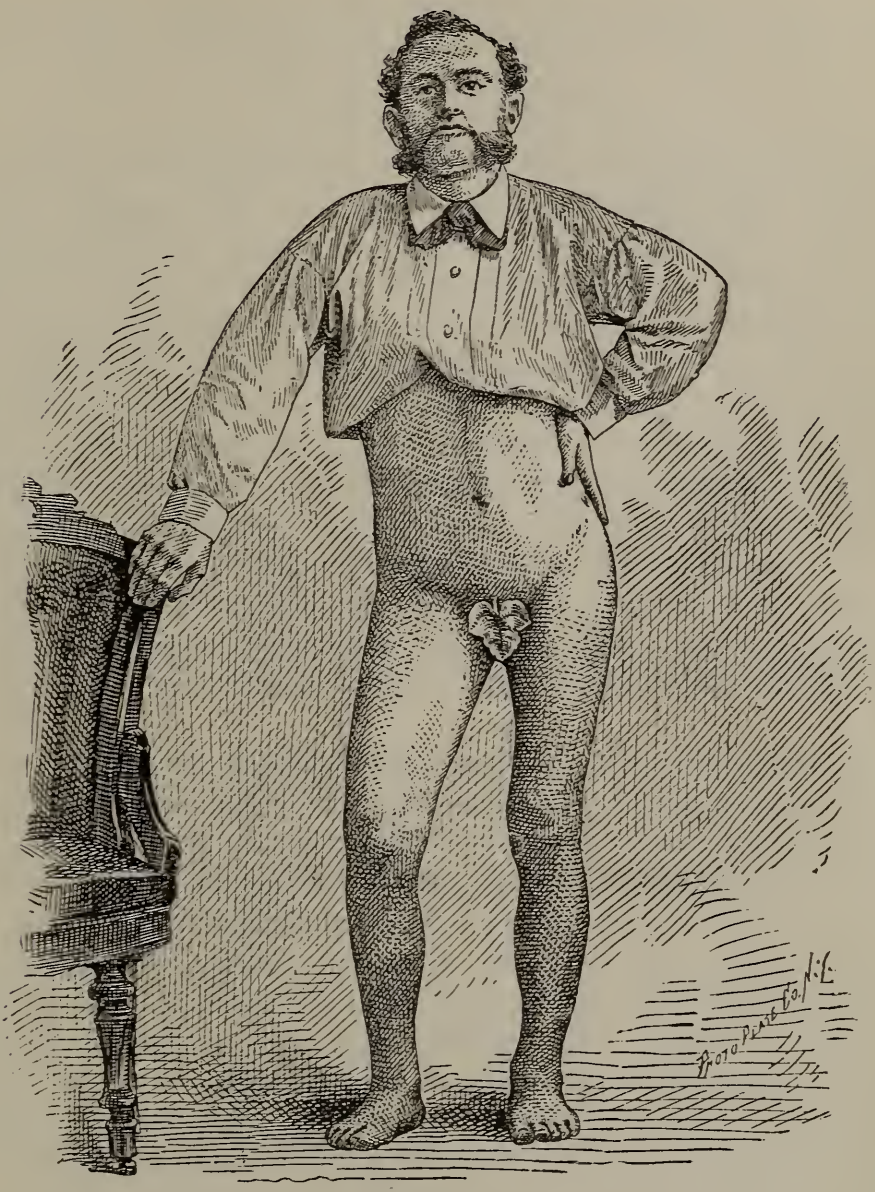

FIG. 2.

I may remark, in passing, that I use the elevated shoe and crutches after excision of the hip-joint, when the active effects of the operation have subsided, and for the mechanical treatment of morbus coxarius, in preference to all other appliances. I hope to have the pleasure of presenting to the Society, at a future time, the results of this method of treating hip-joint disease.

The after treatment of the above-reported case was conducted by the Medical Superintendent of the hospital, Dr. P. L. Schenck, and I desire to express my appreciation of the satisfactory manner in which it was carried out.

ANOMALOUS CASES OF LOCOMOTOR ATAXIA.

BY DR. J. C. SHAW.

Locomotor Ataxia, as the name of a special pathological condition of the spinal cord, appears to be better known to the profession at large than that of any other. But the clinical recognition of this disease is, perhaps, as often unrecognized as any of the many lesions of the spinal cord. This, in part, may be due to the want of knowledge of the symptomatology, etc., of the disorder, but largely to the fact that the symptomatology is not unfrequently so varied, the onset and progress of the disease having such wide variations, that it requires often the closest scrutiny and analysis of the grouping, onset and progress of the symptoms, to enable you to place it under its true pathological designation. The most marked symptoms, and I might even say the pathognomonic symptoms, in locomotor ataxia, are inco-ordination of movement, numbness, and lancinating pains. It is generally believed that these symptoms are always present, and they are looked for to make a diagnosis.

Now these symptoms are not always present, and when they are they assume various forms: the ataxia movements are numerous, the lancinating pains also vary as to time of appearance, severity and frequency, and the numbness is more or less great in different cases.

My object is, in a short paper, to call your attention, by a few cases and remarks, to these anomalous cases of locomotor ataxia. I wish it to be understood here that my object is not to give you an exhaustive essay on the subject, or to enter into any discussion of its treatment; for such detailed information I must refer you to the systematic works of Ziemssen (Articles on Nervous Disease), Hammond, and others on nervous diseases. My paper will be a brief clinical and pathological study.

Case 1.—Patrick McG., aged 31, Ireland.

This patient was seen by me through the kindness of my friend Dr. B. A. Segur, in his ward at St. Peter's Hospital, in June, 1876. I have also to thank Dr. J. S. Minor (then the House Physician) for his valuable aid in obtaining a part of the history and the post mortem.

History.—Up to four years ago (1872) had enjoyed good health. At this time first symptoms of present disease appeared, and consisted in nausea after breakfast for one, two or three mornings consecutively, and then passing off, to appear again in about a month. After a time he began to have vomiting and pain in the stomach during these attacks, and the attacks became more frequent, but still observing the same somewhat irregular periodicity.

One year ago (that is, in 1875) he began for the first time to have some difficulty in walking, which has increased ever since. At this same period he began to have lancinating pains in his legs. He was treated for some time for ulcer of the stomach. At present patient has these attacks of vomiting and pain in the stomach about every two weeks, lasting from 12 to 24 hours, and one lasted four days. These attacks come on suddenly and pass off suddenly. During them he vomits everything he takes, and after the sudden cessation of the attack is able to eat at once, and digest without any difficulty. He has severe lancinating pains frequently in lower extremities, and, in fact, all over his body. Right pupil is contracted; micturition slow. Most marked inco-ordination of lower extremities; he is unable to walk unless he has some one to support him on either side; also has decided ataxia of upper extremities. Emaciated from pain and inanition; cincture in lower lumbar region. The record given me by Dr. Minor is of interest.

May 22. Vomiting ceased.

May 24. Severe pain in right side lumbar region.

May 31. Felt better for past week than he has for four months; appetite good.

June 3. Pain in chest, left side.

June 6. Pain increased; vomiting set in.

June 7. Better; free from pain and vomiting.

June 10. Pain and vomiting re-appear, lasting only one day.

June 20. Pain in small of back.

June 21. Pain in stomach.

June 22. Eight A. M., suffering from an attack which came on at two o'clock this morning. Five minutes before he had walked across the room. When seen at two o'clock was gasping for breath, and lying apparently in a dying condition; gasping respiration would last about one and a half minutes, and be followed by an interval of from one to two minutes, during which no effort at respiration was made. Pulse about eighty, and fair; pupils normal, but do not respond to light. This condition continued until nearly 12 o'clock; at that time pulse became feeble; at two o'clock almost imperceptible; breathing became stertorous at times. Patient remained in this condition until June 23d, on the morning of which day he breathed his last, at 10 A. M., having vomited a dark grumous fluid a few minutes before death. The post mortem was made by me about thirty-six hours after, the body having been on ice. The brain and spinal cord were the only parts examined. The brain, to the naked eye, appeared normal; the meninges covering the medulla and spinal cord appeared œdematous and distended; the floor of the fourth ventricle also had an œdematous appearance. The

medulla pons and upper part of the spinal cord were placed in bichromate of potassa solution previous to microscopic examination. Unfortunately, when I came to make the sections of the cord, I found that the tissue was a little brittle from over-hardening, and therefore very difficult to make their sections; however, I am able to demonstrate, as you will see by examining this section, that in this case we really have sclerosis of the posterior columns. Of course I had somewhat of the same difficulty with the sections of the medulla, but here I was able to make thinner sections than on the cord, but not sufficiently satisfactory to make a very critical examination.

Examination of the sections, however, show great dilatation of the vessels, which are closely filled with blood corpuscles, and here and there is to be seen extravasations of blood into the surrounding tissue. The points of special interest in this case are, the presence of the gastric crises for such a length of time before the other symptoms proper to locomotor ataxia appeared; the fact that these gastric crises were mistaken for ulcer of the stomach. Several cases of this kind have been related by Prof. Charcot, in which the diagnosis had been disease of stomach. Attention to one or two points will very soon make a differential diagnosis between primary disease of the stomach and these gastric crises: with the gastric crises there is never present any dyspeptic symptoms—the attacks come on suddenly and pass off suddenly, the patient eating immediately after, and digesting well; there is a certain periodicity to these attacks: all of which, as you see, are contrary to what is present in the clinical history of ulcer or other stomach disorders. The sudden death of this patient attracts our attention. Ataxics live for a great many years; there is a connection in this case between the sudden death and the gastric crises, and we look for the cause of both on the medulla. The gastric crises are undoubtedly produced by a lesion which interferes with the origin of the pneumogastric nerve, and it is to a cessation of the function of this nerve that I think we must attribute death.

Case 2.—W. M. D., aged 62, first seen by me in October, 1876. He is a man of intelligence and education.

History.—Three years ago went on business to Long Island, traveling on the steam cars. While on the cars one cold, sleety day in February, he went into the water-closet; while in there he became quite chilly and cold. After getting off the car he took a stage to ride some distance; during his ride he felt very cold, and chilled from his hips down to his feet. The next day had numbness and aching in lower extremities, which increased, and he was confined to his bed for a week, at the end of which time he recovered; but ever since there has been a numb feeling in the sole of left foot; this was the only symptom he suf-

fered from, except that he got tired very easily when he walked. One year ago his right foot began to suffer from numbness, and about the same time he began to have spasms of the muscles of the legs, so much so that at times he was in danger of falling, from its sudden appearance; at night this twitching of the legs was so great as to keep him awake, and latterly it has grown worse. In August, 1875, began to have difficulty in holding his urine if his bladder was full; this condition lasted six months, and was followed by some slight difficulty in passing it, which has continued ever since. Marked constipation; cincture around body through epigastric region; also cincture around both lower extremities, just below knees; has a feeling of numbness in both hands; tactile sensibility good; no trophic disorders of skin; patient is unable to stand without support, and is able to move his legs when standing up only a very little. I did not see this patient again until September 5, 1877, when I saw him with my friend, Dr. Burge. His present condition is as follows: Unable to stand at all; has been in bed ever since I saw him last year; complains of intense burning pain in rectum, with a feeling of bearing down, but which is very much increased whenever he tries to sit up in bed; intense burning pain and soreness all over body; cincture at nipple, which is very tight and distressing; intense pain in either hip when he rests upon it; spinal epilepsy quite marked, and severe at times. The following peculiarities of sensation are present in lower extremities: first in one, and then in the other, numb feelings as if the legs were boiled, as if the skin were tense, stiff and dry, as if they were swollen; a feeling of scalding, burning and formication, especially in the soles of the feet; sensibility to touch good, and always referred to the proper place; is able to move lower extremities a little while he is lying in bed; is able to flex foot and toes; there is general atrophy of whole muscular system; eats fairly; sleep disturbed by the intense pain in the rectum, for which Dr. Burge has been obliged to give very large doses of opiates. Dr. Burge examined the rectum, so as to be sure there was no local difficulty, and found nothing abnormal; at present urine dribbles away a little.

The diagnosis I made in this case was a myelitis of the sensory or asthesiodic tract. Prognosis bad. I did not see this patient more than once again; but he remained under the observation of Dr. Burge, and through his kind efforts I made the post mortem. The brain was found to be normal; the spinal cord showed a posterior spinal meningitis; sections of the fresh cord showed a gray degeneration of the whole posterior column the entire length of the cord; in the dorsal region the process was greatest, and the cord quite softened. The cord and medulla being placed in bichromate of potassa solution preparatory to microscopic ex-

amination, sections were made and mounted in Canada balsam, after Lockhart Clark's method. Examination was made of sections from cervical, dorsal and lumbar regions; the lesion in each of these regions is confined to the posterior columns almost entirely; the lesion is essentially that of a sclerosis; increase in the size and number of the nuclei of the neuroglia; very great increase in the nuclei in the walls of the blood vessels, and thickening of their coats, and there are present a large number of amyloid bodies; there is also sclerosis of the entrance of the posterior roots, and here and there a cortical sclerosis of the anterior white matter. This is a peculiar case in some respects. I did not make the diagnosis of locomotor ataxia at the time, for the reason that there appeared to be no ataxia; this, of course, might have been present at an earlier stage, but I got no history of anything of the kind. Then the onset of the disease was not that generally met with in locomotor ataxia; the age of the patient was also very much past that common to ataxia; the pains were a continuous burning, rather than the sharp, lancinating pa n peculiar to locomotor ataxia. The diagnosis of myelitis of the sensory tract was correct pathologically, but too general, as the subsequent post mortem and microscopic examination showed.

Case 3.—C. A., aged 34, native of Scotland, seen first by me July 3, 1876, through the kindness of my friend, Dr. J. S. Prout.

History.—Eight years ago (1868) suffered from vomiting and dizziness, which came on suddenly, and appeared again at intervals for several months. No other symptoms. Three years after (1871), while at work, dizziness and diplopia came on suddenly; dizziness was greatest when he looked up; the diplopia passed off in seven or eight weeks, but dizziness has lasted ever since. Was in good health, with the exception of the dizziness, for three years (until 1874), when he again had diplopia, lasting the same length of time as in previous attack, and passing off; eight weeks ago he had another attack of dizziness and diplopia, coming on suddenly, which has ever since been growing worse. Now has numbness in lower extremities up to knees; in upper extremities confined to hands; has ataxia of upper and lower extremities, the typical ataxic gait; cincture around body, through umbilical region; has never had lancinating pains; no other symptoms present. Sept. 13.—For a week past has had a few lancinating pains in lower extremities for the first time. Oct. 25, 1876, the last time I saw the patient; up to this time he had only had a very few lancinating pains; the patient, I believe, is still alive.

In this case we have a peculiarity in the onset and development of the symptoms; it is eight years after the first symptom presents itself—passing diplopia and dizziness—that the patient begins to have decided

symptoms of ataxia, and not more than four or five lancinating pains: the four separate attacks of diplopia is also peculiar; the rule is that the lancinating pains begin first, and are often present for many years before other symptoms appear.

I must not close this brief paper—especially as it takes into consideration the pathological anatomy of locomotor ataxia—without reminding you that Charcot and Pierret have shown that the essential lesion in this disease is situated in the lateral part of the posterior column, and that it is to the presence of this lesion that we are to attribute the symptoms of lancinating pains. The specimen which I show you illustrates well this condition of localized sclerosis.

A CASE OF TRACHEOTOMY.

BY H. N. READ, M.D.

The following case has nothing unusual in its course and termination, and I only offer it as a contribution to the statistics of tracheotomy. I can add nothing to the force of the arguments of Dr. Pilcher's paper, familiar to you all; but as tracheotomy in croup and diphtheria is in turn so much advocated and so much decried, by its supporters and opponents, it behooves, in an especial manner, that every case be reported, good, bad and indifferent—which fact may serve as an apology for occupying your time with the presentation of the following

CASE.

Lizzie H., a healthy, well-developed child, four years old, was taken sick Sunday morning with vomiting, fever, cough and hoarseness, symptoms increasing in severity towards night; was better next morning, but suffered an exacerbation again as evening came on. The day following, Tuesday, my friend Dr. William Wallace saw the case, and pronounced it *membranous croup;* prognosis unfavorable. Appropriate remedies were exhibited, without the effect, however, of staying the progress of the disease, which increased in severity, till on Wednesday afternoon the dyspnœa was so urgent, that it was evident the case would terminate fatally in a short time, unless relieved. Being unable, from sickness in his family, to attend the case further, Dr. Wallace kindly asked me to take charge of the patient, and operate for tracheotomy. The parents—who were very sensible people—were very anxious that

anything which promised relief should be attempted, so distressing were the struggles and sufferings of the child. Accordingly at four o'clock P. M., on Wednesday, I performed tracheotomy on the patient, with the assistance of Drs. Wallace and Harvey. On entering the room the patient was discovered perfectly livid, gasping for breath, apparently "in articulo," unable to make the slightest resistance to any handling or moving that was attempted, seeming to be unconscious to all around. Indeed, so alarming was her condition, that very grave doubts were entertained, both by the gentlemen with me and myself, whether the child would live through the operation. Chloroform was rapidly administered by Dr. Harvey, and I made the customary incisions, going above the isthmus of the thyroid, though dividing a few of the fibres of that body, those uppermost. The thyroid plexus was unavoidably wounded at this point, and the hemorrhage was so profuse, that the vein had to be ligated before proceeding. The trachea was exposed with considerable difficulty, owing to the shortness of the child's neck and the intense play of the cervical muscles from the forced respiration. In the mean time the condition of the patient seemed desperate in the extreme, and death before completion of the operation seemed imminent. Having finally secured the trachea with a tenaculum, it was opened, and after pulling out several large pieces of membrane, the tube was readily introduced. The beneficial effects were soon seen, the breathing becoming regular, and in a short time the intense lividity of the skin passed away. The patient was now placed in bed, and a canopy of sheets hastily constructed over her, under which the vapor of boiling water was freely introduced. She passed a good night, and next morning seemed quite bright. The after history of the case presented nothing of special moment. The patient, with some slight retardation, made a good recovery. On the fourth day after operating, symptoms of bronchial catarrh made their appearance, and the temperature rose to 102°. Copious expectoration followed, rendering the closest attention to keeping the tube clear necessary, both by day and night. All unfavorable complications, however, soon subsided under the administration of remedies, and after this, with the exception of a tonic, no medicines were given. The tube was removed first on the fifth day; but the adhesions of the membrane in the larynx were so tenacious as to prevent its being thrown off by that time, so the tube had to be replaced to facilitate breathing. It was taken out each day, and finally dispensed with on the tenth day. The wound was then strapped, and healed completely on the eighteenth day after the operation. This case makes the fifth I have operated on, with two recoveries —my other cases were reported in Dr. Pilcher's paper. A point of interest, and to which I specially wish to call attention, was the extremely

unfavorable condition of the patient at the time of operating. Asphyxia had developed itself to an alarming degree, and when we arrived at the bedside, it was, as I said before, questionable as to whether the child would live through the operation, and none of us thought it would ultimately survive. Though an advocate for operating early, as every one who advocates operating at all must be, the result of this case has brought me to believe that there is no case so desperate that an operation may not save, provided the danger to life be due simply to obstruction of the larynx and stoppage of air, and not to a specific blood-poison. And in looking back over my experience of the last two years, I have to regret the deaths of three children whose cases I declined to operate on—believing them to be too far gone for recovery—which cases I should now undertake without hesitation—not with perfect confidence, indeed, but with a reasonable amount of hope.

THE SUMMER MORTALITY AND TEMPERATURE OF 1878 IN BROOKLYN.

BY R. M. WYCKOFF, M.D.

The following report of the Registrar of Vital Statistics was prepared to accompany his regular weekly statement for the week ending September 28th, and appeared in part in the papers of October 4th. It is reproduced here, with a few changes, to bring it into the current of medical attention:

With this, the thirty-ninth week, closes the third or summer quarter of the year, embracing the thirteen weeks from June 30th to September 28th, inclusive. It merits some special comment, as being the most fatal quarter of the year. Only under very exceptional circumstances does the summer mortality of any city in this climate fall below that of the other seasons.

The total number of deaths in this period was 3,383, while in the first and second quarters of the year it was 2,438 and 2,507 respectively. In the corresponding quarters of 1877 the total mortality ranged as follows: in the first quarter, 2,638; second, 2,606; and third, 3,575. This indicates that this summer quarter was less fatal, by 192 deaths, than that of last year; but as compared with the average of the two previous quarters of 1878, we find a loss of 911 lives. This is an approximate measure of the sacrifice of lives the city sustained from the effects of the intemperate midsummer heat.

The population of Brooklyn being estimated at 549,000, we have as an annual death-rate for the quarter last past 24.64 deaths in each 1,000 of the inhabitants, a very high rate as compared with that of the first half year of 1878, when not more than 18 died among 1,000 living.

The great stress of this increased mortality fell upon young life; for while the average increase among those over five years of age was less than five deaths each week of the last quarter, the increase among children under five exceeded 63 deaths weekly. The total number of deaths in the latter class amounted to 1,923, or 56 per cent. of the entire mortality, or an annual rate of 14 per 1,000. Infants under one year suffered to the extent of 1,251 deaths (rate 9.1 per 1,000), a Herodian fatality which would astonish and alarm, but for the fact that an equal or greater loss has been seen so often in former summers.

The mortality began to rise in the twenty-fifth week (in the latter part of June); it attained its maximum during the intensely hot weather of July, and it began to decline in the last week of August. The downward curve of the mortality line is much less sharp than was its ascent, and has not yet reached the level of the early part of June, when the average weekly mortality stood below 190 deaths—the ill effects of the summer heat not having fully spent itself, just as the driftwood from a wreck continues to float into shore after the storm has passed away.

In the four July weeks there were 431 diarrhœa deaths at all ages, giving a rate of 10.2 per 1,000; in the full quarter there were 717 deaths from this cause among children under five years of age, *i. e.*, 78 per cent. of all the deaths by diarrhœa, the annual rate being 5.2 per 1,000. Under one year 564 infants died from this cause, *i. e.*, 62 per cent., and at the rate of 4.1 in every 1,000 inhabitants; the causes of these 564 deaths were assigned as follows: cholera infantum, 433; diarrhœa, 57; dysentery, 37; and entero-colitis, 37.

In the last week of June—the end of the previous quarter—the diarrhœal mortality stood at 58 for all ages, but in the first week in July it rose to 109, an increase of nearly 100 per cent. The rise in temperature at this time was unseasonably rapid—the difference between the mean thermometer of weeks ending June 8th and July 6th amounted to 17.5°, and the means of lowest temperature differed by 16.8°; the rise in the mortality-curve was correspondingly rapid in those four weeks, from 183 to 312, an increase of 129 deaths. Of the mortality of the twenty-ninth week —that calamitous week in which the "heat-wave" from the West struck our city—I have previously reported briefly: the deaths rose to 359, at the rate of 34 in the 1,000. "The intensely hot weather of that week was as wasteful of human life as a pestilence would have been. The already high mortality of the previous week was increased 16 per centum"; the apex of the mortality-curve of the year was then reached.

To enable the reader to trace the progress of the mortality side by side with the records of the thermometer, the following table has been prepared. It is arranged by weeks, showing some of the chief causes of death which are likely to be modified by meteorological conditions, along with the weekly averages of the thermometer, hygrometer and rain-fall. These latter observations were made at Prospect Park, and may not fully represent the extremes of heat, dryness, etc., which were experienced in the built-up portions of the city. Thus, although "100 in the shade" was currently reported in the city a few times, the maximum registered at the Park was 97°, on Thursday, July 18th. Under the term diarrhœal diseases are grouped cholera infantum, dysentery, diarrhœa and entero-colitis; enteritis and gastro-enteritis are not included.

TABLE OF DEATHS ACTUALLY OCCURRING EACH WEEK IN THE THIRD QUARTER OF 1878, WITH METEOROLOGICAL MEANS.

Months.	July.				August.					September.				
Week of the year.	27th.	28th.	29th.	30th.	31st.	32d.	33d.	34th.	35th.	36th.	37th.	38th.	39th.	Total or Av'ge
Total Deaths.	312	309	359	248	255	257	247	253	233	240	228	225	217	3.383
Annual death-rate	29.5	29.3	34.0	22.5	24.2	24.3	23.4	23.9	22.0	22.7	21.6	21.3	20.5	24.64
Deaths under 1 year	133	137	151	118	93	98	103	74	74	84	64	58	64	1.251
Deaths under 5 years	192	211	230	164	143	152	136	132	116	131	114	101	101	1.923
Diarrhœal deaths, all ages	109	117	125	80	79	83	76	51	51	45	35	39	19	929
Diarrhœal deaths under 5 years	98	112	115	75	61	76	67	39	41	41	31	36	15	717
Cholera Infantum	78	96	95	58	46	48	47	25	27	24	19	18	7	588
Consumption	30	24	42	15	27	26	27	37	32	28	35	30	26	379
Marasmus	12	8	13	15	16	10	14	14	17	19	17	8	15	178
Sunstroke	4	2	4	1	1	1								13
Old age	3	7	11	4	4	3	2	8	5	8	3	6	7	71
Mean temperature	78° 8	75° 8	77° 2	74° 5	72° 0	75° 2	73° 1	70° 4	69° 2	72° 5	68° 0	67° 7	60° 7	71° 9
Mean of maximum temperature	88° 4	82° 4	86° 0	84° 0	79° 0	82° 5	79° 6	76° 8	77° 0	78° 3	74° 2	73° 6	69° 0	80° 2
Mean of minimum temperature	68° 2	64° 6	68° 3	66° 4	63° 4	67° 5	66° 6	62° 7	60° 2	67° 4	61° 3	58° 4	52° 2	63° 5
Humidity of air	74	83.	82	72	87	74	90	82	89	93	92	83	75	
Rain-fall in inches		3.13	.69	.70	4.012	1.974	1.386	.24	.29	1.895	.048		.18	
Average of deaths during corresponding weeks of past 3 years	335.3	413	335	327.3	271.3	289.3	299.6	281.6	269.	248.3	232.3	227.3	207.	3737.2

The weeks showing the highest mean temperature and the highest means of the minimum temperature, are frequently accompanied or closely followed by the greatest mortality in the very young, and in those enfeebled by wasting diseases.

The mean of the minimum temperatures has special mention, for the reason that in proportion as that weekly average rises and is maintained above 50°, the atmospheric conditions become more and more favorable to fatal epidemic diarrhœa. For while this minimum mean remains

high there can be few cool nights to mitigate the prostrating effects of the torrid day-heat. A high maximum, accompanied by a low minimum, is less dangerous than a long-sustained high minimum mean.

And further, the days of greatest heat have not infrequently been attended by the highest fatality; a consequence of the great depression of extreme heat upon the very young, the sickly, and the poorly nurtured.

High temperature is here specially referred to, although, to make the study complete, two other co-efficients of disease and death should enter into the account—namely, great dryness of the atmosphere and slight rain-fall; but it is impossible to take up these, and other meteorological influences, at this time.

The above data of our last summer's experience may with profit be compared with a few other data concerning London in the same season, to be obtained from the helpful weekly reports of the Registrar-General of England. Notice the following points of difference of the thermometer and percentage of diarrhœal deaths for the quarter ending September 28th :—

	Weekly mean Temp.	Mean Minim. Temp.	Difference.	Rate per 1,000 Diar. Deaths.
London.	60.9° F.	52.8° F.	8.1° F.	3.3
Brooklyn.....	71.9	63.5	8.4	6.5
Differences	11.	10.7		3.2

Our mean minimum temperature exceeds the London's weekly mean, and our diarrhœal rate is nearly double that of the other city. In twenty large English towns the diarrhœal rate was only 4.5 per 1,000, although some of them, Hull, for example, with 10.2 per 1,000, from yet undiscovered causes even exceeded our own. In London the mean minimum at no time rose above 59°, while in this city there were ten consecutive weeks during which it never fell below 60°. (How clearly does this fact, by itself, tell the story of our last summer's temperature.)

The general question of summer mortality is one of pressing interest, and continues to enlist the best exertions of sanitarians and the benevolent of all classes. The manner in which the heat produces its effects upon the delicate organization of the infant, and the pathological changes observed, are engaging more and more attention. In some English towns recently affected with increased diarrhœal mortality—in an "epidemic" form, as it is termed—great difference of opinion prevails among their respective officers of health. In some places organized efforts are made to investigate and improve the manner of infant feeding.

In some, the factory employments of the women lead to baby-farming

and its perils. In one section, the high mortality among illegitimates engages the attention of a Society for the Protection of Infant-life. In another, bad sewerage and drainage is the point of attack. Bad water, or a water-supply that is liable to become overheated in its reservoirs, is condemned elsewhere (when the temperature of the Thames water rises above 60°, it is regarded as an index to a rise in diarrhœa mortality in a portion of London). The contamination of food by bacteria is regarded by many as a chief occasion of mischief. The contamination of the house-air is effected, in part at least, by the in-draught of ferment-germs from the sewers, the warmer air of the house causing them to ascend from the cooler sewer-air. Ordinarily, in June, the sewers reach a temperature of 56°—a point at which putrefaction takes place in the sewage-water. Dr. Johnston, of Leicester, England, has then found various genera of bacteria, infusoria and fungi; they have not been found in April or May.

Dr. Johnston has been devoted to the terribly high summer mortality of Leicester from diarrhœa among children, and during July and August made prolonged microscopic examinations of the bowel-discharges from infants and adults having diarrhœa. As a result, he was attacked five different times by that disease. Each attack yielded to quinine and dilute sulphuric acid; but after a lapse of a few days, upon resuming his examinations, he would be again attacked. Under these circumstances, it is not surprising that Dr. Johnston attributes the spread of diarrhœa to the ejecta of previously infected patients.—(*Sanitary Record.*)

These organisms—the active agents in putrefaction and fermentation—abound in the sewer atmosphere and in that of the catch-basins of badly sewered districts. Thence they are carried by the ascensional forces of evaporation and rarefaction into the air of the houses themselves. In such districts, milk and other foods speedily become infected with the above ferments.

The true causes of trouble being so much in question, it is premature to speak confidently of its remedies. Much may be done, however, as time advances and a more thorough knowledge is obtained of the exact changes of the body which heat effects; for this information everything depends upon the researches of physicians, especially those of cities like our own. Meanwhile, the sanitary care of the domicile will abundantly repay attention; so, too, cleanliness of the person, the protection of food from heat changes and care in the choice of food. Among the important means of prevention, lastly, the removal of the child, when sick, or even before, from the perfervid, depressing atmosphere of the city, is a means which has been largely resorted to in the past few years, with results that have been gratifying to a remarkable degree; and until exact causes and

remedies shall have been discovered, this flight from the city to the seashore or to some mountain resort will be the means of greatest defense against the perils following the summer solstice. It may be added that during the past summer there have been 1,000 children under three years of age cared for at the Seaside Home at Coney Island; of this number only one died, although not a few of them were received in a seriously diseased condition.

The rate per 1,000 thus far in 1878—three quarters—is 20.5, for this city.

BROOKLYN PATHOLOGICAL SOCIETY.

Regular Meeting, September 26th, 1878.

The President, Dr. F. W. Rockwell, in the chair.

A PROBLEM IN SURGERY.

Dr. John Merritt presented the upper end of a femur, the head of which was destroyed, and the neck and trochanteric portion very much softened from osteitis and caries, and blackened from prolonged maceration in decomposed pus.

The person from whom it was removed was a single man, æt. 31, U. S., a merchant. He was at no time during his illness under the care of a regular physician. About four years ago he first suffered from a severe pain in the right leg. He continued to go about for two years, when the pain was so great as to confine him to the house, and finally to his bed. He found most relief from lying on the left side, with his face downward, and the right leg drawn up. He lay in this position continually for nine months.

In July, 1877, an abscess broke on the outer aspect of the thigh, near its middle. In February, 1878, ether was administered, and he was turned upon his back, in which position he continued till his death in August last. He had all the constitutional symptoms that accompany prolonged suppuration of bone. The *autopsy* was made eleven hours after death, by Dr. B. F. Westbrook, Dr. Bunker and myself assisting. The body was greatly emaciated. Nine fistulous openings were found about the right hip, thigh and groin. The *liver* was apparently normal; the *kidneys* were amyloid; the alimentary canal empty. Turning back the peritoneum, the body of the right psoas muscle was found to be destroyed, and replaced by an abscess cavity, which extended down between the iliacus and the venter of the ilium. From this point a fistulous canal

extended forwards, opening in the groin, and another led through the great sacro-sciatic foramen, and down behind the cavity of the hip-joint, with which it communicated. The left psoas muscle also was excavated, the cavity extending outwards under the iliacus, and downwards into the pelvis. The bodies of the two last lumbar and of the sacral vertebræ were bare and eroded superficially, and the intervertebral substance was destroyed to a considerable extent. The ilia were not eroded, though somewhat soft. The *right hip-joint* was filled with black fluid matter. The head of the femur was destroyed, and the neck, trochanters and upper part of the shaft softened. The acetabulum was carious, and through an opening in it the finger could be passed into the pelvic cavity.

Dr. M. said that the case was interesting, from the fact that in these latter days we rarely see a case in which no treatment has been employed. He desired to ask the question whether the primary lesion in this case was in the hip-joint or in the vertebræ. He had found similar cases recorded under the head of hip-joint disease, by Bell and other old authors. His opinion was that the hip-joint disease was primary, and that, owing to the position of the patient, the pus had gravitated toward the pelvic cavity, and found its way into it (as the old authors say was common.) A professor of surgery in the Homœopathic school had excluded hip-joint disease *entirely*, on account of the age of the patient.

In reply to Dr. Gray, Dr. Westbrook stated that he had at first thought the spinal disease was primary; but on further consideration he was inclined to accept Dr. Merritt's view, particularly as the disease was so much farther advanced in the joint than in the vertebræ.

The President thought it impossible to decide Dr. Merritt's question positively, in the absence of a more thorough clinical history and autopsy (the brain and thorax were not examined.) Had constitutional tuberculosis existed, the disease might have been considered as arising independently in the different localities.

STRICTURE OF INTESTINES.

Dr. Westbrook presented the cæcum with a portion of the ilium, and also a piece of liver, from a man, æt. 60, who had died with the symptoms of obstruction.

Drs. Crane and McClellan, for whom he made the autopsy, had treated him for about one year, during which time the symptoms of obstruction had progressed, with occasional exacerbations, until finally they were so urgent as to demand the administration of croton oil. This caused an evacuation of fluid fæces, accompanied by severe pain, and followed by tympanitic distension and great tenderness. Death was due

to exhaustion. During the year emaciation had occurred, with some slight cachectic appearance. A small tumor could be felt in the right iliac region. At the autopsy the omentum was adherent in the right iliac region. The small intestine was distended with gas. Its lower portion was much dilated, and the walls much thickened. The cæcum was infiltrated with a mass which constricted the ilio-cæcal opening so that it only admitted the end of the little finger. Two other constrictions also existed in the cæcum. The *glands* were not enlarged. The *liver* contained numerous yellowish-white nodules. Small gray nodules were sparsely scattered over the peritoneum. The larger of these, on being incised, exuded a milky fluid. A hasty microscopical examination seemed to indicate a carcinomatous character of the growths.

(Referred to the Microscopical Committee.)

STRICTURE OF SIGMOID FLEXURE.

Dr. Westbrook presented a portion of the sigmoid flexure of the colon, from a case in which he had made the autopsy for Dr. Gregory. The patient, a middle-aged man, had always been robust until six weeks before his death. He had been subject to "bilious" attacks, however, and had also at times suffered from what were supposed to be hæmorrhoids. Six weeks previous to death he was attacked by a violent pain in the abdomen, accompanied by vomiting and tympanites. This yielded to a mercurial purge, but returned, and the symptoms became aggravated, and indicated obstruction of the bowels. The distension was enormous. Rectal injections to the amount of a quart at a time were used, a catheter being passed its entire length into the rectum. No passage could be obtained by this means. Dr. McClellan and Dr. Janeway, of New York, saw the case in consultation. At the autopsy abdomen was enormously distended; this was most marked above the umbilicus. There was no peritonitis. Both the small and large intestines were greatly distended; the elevation above the umbilicus seemed to be due to the expansion of the transverse colon. A stricture was found in the sigmoid flexure about one foot above the anus. It was caused by the cicatricial contraction of the base of a circular ulcer. The gut was sharply bent at the constricted part, which lay on the floor of the pelvis. Just above this point the wall of the intestine had become so thin that it ruptured as it was drawn up out of its position. One enlarged lymph-gland was found near the site of the stricture. The closure of the intestine was not complete, but was rendered so by the sharp bend. The other abdominal viscera were healthy, except the liver, which was slightly contracted. The head and thorax were not examined.

(Referred to Microscopical Committee.)

In reply to questions, Dr. W. stated that the seat of constriction had not been determined before death, the impression being that it was in the small intestine. It was a case in which a *diagnosis* was impossible.

Regular Meeting, October 10th.

The President in the chair.

ANEURISMS OF AORTA.

Dr. McPharlin, of the Brooklyn City Hospital, exhibited, for Dr. Ormiston, the heart and aorta from the following case:

C. H., 35, Eng., sailor. About two years ago he began to have slight pain in the left side, about the nipple. After a year it became much worse, shooting down the left arm. At the same time his voice became weak. Kept on doing light work. April 22d, admitted to hospital. He is poorly nourished; has dyspnœa; speaks little above a whisper.

Physical Examination: Apex beat displaced downward and outward. A systolic murmur at apex, transmitted around to back. Systolic and diastolic murmurs heard over the aortic and pulmonary orifices, and at ensiform cartilage. Maximum of intensity of systolic murmur in first intercostal space, at left edge of sternum. It is transmitted into the carotids. Laryngoscopic examination shows paralysis of the left vocal cord. He became gradually worse; had symptoms of angina pectoris, hæmoptysis, etc.

On the 27th of September he became so œdematous, that a canula was inserted into the outer side of each leg, through which he discharged daily, on an average, about four litres of fluid, up to the time of his death, October 9th. The last four days, however, the discharge was very much less.

The sphygmograms of the radial pulses differed (difference not described.)

The lungs were œdematous and in parts consolidated. The heart and aorta weighed 40 ounces. Three aneurismal sacs were found on the arch, two on opposite sides, facing each other, the third at the commencement of the descending portion. The two first were about an inch in diameter. The third was very small. The valves were all contracted.

In reply to Dr. Rushmore, Dr. McP. stated that there was a short cough, and no dysphagia. No kidney lesion.

To Dr. Merritt there was great anæmia and emaciation.

DEGENERATION OF TESTICLE.

Dr. McPharlin also presented, for Dr. Hebersmith, a testicle removed by the latter at the Brooklyn City Hospital.

The patient, an American seaman, 24 years of age, had had gonorrhœa for one year. Nine months ago the testicle began to swell. He had also had a chancre during the year. On admission to the hospital, a portion of the scrotum on its anterior aspect had been destroyed, and a fungiform mass projected from the opening.

The testicle was enucleated on the 13th September. It was enlarged and had undergone cystic degeneration.

The Secretary requests members who present specimens to present therewith a *written* account of the case and pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides. Address, Curator of Pathological Society, care of Dr. B. F. Westbrook, Secretary, No. 279 Clinton Street, Brooklyn.

BENJ. F. WESTBROOK, *Secretary.*

BROOKLYN ANATOMICAL AND SURGICAL CLUB.

Stated Meeting, June 17, 1878.

The President, Dr. L. S. Pilcher, in the chair.

REPAIR AFTER EXCISION OF THE HIP-JOINT.

Dr. CHARLES JEWETT presented the right innominate bone, and upper half of right femur, removed from a case—female, aged 14 years—in which, ten months previous to death, he had excised the upper four inches of the femur for carious disease. The wound made by the operation never entirely healed. By the aid of Taylor's hip-splint she was able to walk about at end of second month after operation. Died from rapid phthisis pulmonalis, April 30, 1878. The specimen showed a club-shaped mass of dense fibrous tissue and bone developed in site of the removed bone: the acetabular cavity filled up by dense fibrous tissue; above it a shallow pseudo-articular socket, in which the upper extremity of the new bone lay; the surrounding tissues, matted together and indurated, formed a fair substitute for a capsular ligament. Limb had sustained two inches shortening.

Dr PILCHER exhibited a preparation of the part removed in the original operation, and called attention to the illustration afforded by this case of the reparative powers of nature. The specimens demonstrated that, but for the intercurrent pulmonary disease, complete cure would have been accomplished and a useful point secured.

Dr. G. R. FOWLER cited a case in which the existence of extensive disease of the lungs had not prevented complete ure o˜ disease of

the ankle-joint, after the removal of the diseased bone. At the time of death, by phthisis pulm., the only traces of previous trouble in the joint were the numerous cicatrices marking the site of old sinuses, and a partial anchylosis of the joint.

GANGRENE OF THE LUNG.

Dr. J. H. Hunt presented the right lung of a boy, aged 6 years. In the middle lobe was a large cavity, whose walls were in a gangrenous condition. During a period of six weeks the patient had had slight cough, irregular chills and fever, and some fetor of breath. Two weeks previous to death a sudden aggravation of symptoms occurred. Large quantities of greenish mucus, with a gangrenous odor, began to be expectorated. This sputum, under the microscope, was seen to contain elastic fibrous tissue and other elements of lung tissue. The cough was paroxysmal, with intervals of from one to three hours between each paroxysm. The temperature ranged between 101° and 103° F., and once rose to 106.5°. Died June 5, 1878.

Dr. Hunt dwelt upon the value of the chloride of lead, in solution, as a deodorizer in such cases. It is cheap, odorless, leaves no stain, and is efficient. It should be used profusely. It may be prepared by dissolving an ounce of nitrate of lead in sufficient quantity of hot water, and adding this to a pailful of water in which a handful of common salt has been dissolved.

Dr. Geo. Wieber related the case of a child of nine years, the subject of gangrene of the lung. The case began as a pleuro-pneumonia. Death occurred at end of second week. Autopsy showed that the entire right lung was converted into a sac. This did not communicate with the pleural cavity.

CARCINOMA OF BREAST.

Dr. Pilcher presented a mammary tumor removed by him May 29th, 1878, from the person of a lady aged 58 years. The nipple of this breast was not well developed, occasioning frequent trouble in nursing her children ; during last two lactations abscess had resulted. General health good. Nine months previously had sustained a smart blow on this breast. Two months after, a small lump, near its axillary margin, was noticed, which continued to slowly enlarge and to be the seat of persistent pain. No enlargement of axillary glands. At time of operation the tumor was found to be connected to the proper gland tissue by a tongue of indurated tissue. The fibrous stroma of the gland was also generally thickened and indurated. The connective tissue surrounding gland shared in the same condition. All the parts affected were freely excised. The skin flaps left, though very thin, preserved their vitality. Union by first intention was secured throughout the whole of the extensive wound, except at points where ligatures were brought out.

Dr. N. B. Sizer reported that sections of this tumor, under the microscope, showed tissue made up of epitheloid cells in a connective tissue stroma, indicating so-called carcinoma structure. At other points embryonic tissue was found, the vessels having walls of the same, showing a tendency to sarcoma.

Dr. Sizer demonstrated these appearances by the aid of a microscope.

——Long Island and New York Island in the Ice Period.—We have no measure of the amount of erosion which New York Island and the adjacent country suffered during the ice period, but it is not improbable that a mass a hundred feet in thickness was taken from the surface of all the region occupied by the ice. Most of the finer material ground up by the glaciers was washed out to sea and deposited as the "Champlain clays." The coarser portion of the grist ground by the glacier remains as beds of gravel and sand, or heaps of bowlders scattered over the surface of the country where they were left as local moraines, or as the gravel-bars of streams flowing beneath the glacier. The greatest accumulation of material transported by the ice in all the country about New York is seen on Long Island, which is indeed a great terminal moraine heaped up along the margin of the continental glacier. As is generally known, Long Island is mostly composed of heaps of gravel and sand, which sometimes form hills from 200 to 300 feet in height, and in these no solid rock has been found in any exploration yet made. The formation of this huge gravel-bank seems to have been, in brief, as follows: The great ice-sheet, moving down from the north in Connecticut and Southern New York, passed over a region occupied mostly by hard, crystalline rocks. These were extensively worn away by it, and much of the material taken from the surface was pushed on as by a great scraper to its margin. When the ice-sheet reached the line of Long Island Sound, it passed from the area of upturned crystalline rocks on to the comparatively soft horizontal tertiary and cretaceous strata, which here formed a plain stretching seaward, from the highlands, just as they do now in New Jersey and more southern States. These were scooped out to form the basin of Long Island Sound, and the material excavated from it, as well as much brought from the country lying farther north, was banked up between this basin and the ocean. Thus it will be seen that, of the water connections of New York Harbor, Long Island Sound is much the most modern; and yet, as a part of it occupies the site of the valley of a large stream—the Housatonic, with perhaps the Connecticut—which passed through the Hell Gate gorge, its formation must have been begun in pre-glacial times.—Prof. J. S. Newberry, *Pop. Science Monthly, October.*

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——Yellow Fever Fund.—The following additional subscriptions have been received since our last issue: Dr. J. S. Thorne, $10; Dr. Charles Schmidt, $5; Dr. Henry Riedel, $5; Dr. J. S. Andrews, $5; Dr. C. Green, Homer, N. Y., Sec'y Cortland Co. Med. Soc., $5; Dr. G. W. Bradford, Cortlandville, N. Y., $2; making a total of $547.

——Antique.—The Society has the expectation of an interesting gift, a trephining case of great age, and one which is reported to have done service in the wars of the Revolution and of 1812.

——Casella has improved his clinical thermometer by the addition of a safeguard which prevents the descent of the index below a certain fixed point, no matter what amount of violence is applied to it.

——Mr. Callender, the *Lancet* informs us, meditates a visit to the United States in December, "with the intention of seeing the practice and teaching arrangements of the distinguished surgeons of America." . . . We promise the "distinguished surgeon" of St. Bartholomew's the warmest of welcomes here. He is one of those old friends whom we have never met before—except as we have encountered his good works. From all accounts, Mr. C. would make a good American.

——The Hay Fever Association met as usual this year at Bethlehem, N. H. Among the newly elected officers is L. M. Pinkham, Esq., of Worcester, Mass., Treasurer, to whom "victims" may send annual dues (one dollar), become members, and receive the publications of the year 1878-9. Every victim should join, and in other ways assist the work of this scientific organization.

——Home for Nervous Diseases.—This well-established Home has removed to larger and more eligible quarters in the Twenty-fourth Ward of this city. The profession is invited to visit this institution and examine its facilities for the treatment of nervous diseases.

——An Ink-Pencil, or fountain-pen, which is in use by several physicians, is illustrated by the accompanying cut. It is a new invention, for which is claimed especial advantages as a pocket-pen, and is likely to be popular among the profession. It holds sufficient ink for several days' writing and is always ready for use. It writes without shading, requiring the minimum amount of pressure in its passage over the paper. There are two sizes, length 4½ and 6 inches; prices from three to four dollars. C. W. Robinson, 169 Broadway, N. Y.

——Oleo-Margarine.—This substitute for dairy butter is manufactured by the Commercial Manufacturing Co., New York. Two hundred and fifty men are employed night and day, and turn out at the rate of eighteen thousand pounds daily. The fat used is solid, clean and inodorous, chiefly taken from the omentum of beef. While cutting is kept constantly on ice. It is finely ground, melted in steam-jacketed kettles, syphoned off, cooled at 100° F., deprived of its stearine, and finally churned with pure cream in air churns. To every sixty gallons of oil one can of pure cream is added. After boxing it is chilled and shipped. The bulk of it goes to England, where, under its own name, it obtains a ready market, retailing during the cold months at thirty cents per pound.

——Contagious Diseases and the Schools.—The Brooklyn plan of dealing with this question, made known in this journal in June last, and quoted widely in foreign sanitary journals, appears to be gaining ground. The *Sanitary Record*, from time to time, mentions towns or authorities which are pursuing a similar course of preventive measures in regard to their schools.

——The Yellow Fever Commission, appointed by Dr. Woodworth, of the Marine Hospital service, is expected to make a preliminary report at the American Public Health Association, at Richmond, Nov. 19th to 22d. A general invitation to attend this meeting is extended to all who are interested in the study and prevention of yellow fever.

——Vaccine and its Transportability.—A recent number of the *Lancet* quotes from some official report of the Governor of the Windward Islands to the effect that very little vaccination had been done during the year 1877, for the reason that it was difficult to obtain good virus. This latter excuse seems unaccountable, when it is known that vaccine may be so prepared and packed as to go on its travels nearly

round the world, and be perfectly effective at the end of the journey. Bovine lymph, from a vaccine farm in this city, is sent by nearly every trans-Pacific steamer, running from San Francisco to Japan and Australia, and is reported successful in nearly every instance; vast quantities of this lymph, sent to California during the recent epidemic of small-pox, were used, and a failure scarcely ever reported until the lymph had been on hand there for three or four months.

——Heat-Stroke.—The *Boston Med. and Surg. Jl.*, July 11th, gives an account of the successful treatment of a desperate case of heat-stroke, or thermic fever, as Dr. Wood, of Philadelphia, prefers to call it. The means employed were the application of ice to the head and repeated spongings of the whole body with ice-water. At the outset, the temperature in the axilla was 109.2° F. An hour later the heat was reduced about seven degrees. Late in the treatment the hypodermic injection of quinia was practiced with apparent benefit.

——Elephantiasis.—Dr. Manson, of Amoy, has discovered that this disease is caused by the presence of the filaria sanguinis hominis in the lymphatic vessels, disordering their function, blocking their channels—hence the formation of elephantoid tissue, lymph-scrotum, chyluria, etc. The mosquito is believed to be the occasion of the prevalence of this disease in the far East; it gets the young filaria from man. The parasite propagates in the insect's stomach, whence it is discharged into water; thence again its progeny is taken up by man.—Dr. C. A. Siegfried, U. S. N., *Phila. Med. Times*, Oct. 12th.

——On Tobacco Deafness.—Tobacco must be classed with alcohol. Like it, even in small quantities, it causes marked functional disturbance in the organs of hearing. Often deafness depends entirely on its use. Its effects are most marked on the middle ear, the muscles of the palate, and on the nerves of these regions. Smoking is, in this respect, more injurious than chewing or snuffing. Those who expel the smoke through the nostrils bring it in direct contact with the Eustachian tubes, so long as they remain unclosed. If the smoke be forced through a cambric handkerchief, the solid particles it contains will form on it a dark stain. These particles adhere to the mucous membrane, as is proved by the fact that the odor remains in the breath long after the person has ceased to smoke.

The angina of smokers is characterized by swelling, redness, dryness and insensibility of the mucous membrane of the palate and the pharynx. The redness is not that of an acute affection; it is a congestion, rather than an inflammation. The dryness of the throat is marked, and the epithelium is smooth and glossy. The patients suffer no pain; they generally seek to be relieved from the ringing and deafness. Deafness

often arises from defective innervation, or from atony of the muscles. Deffenbach first pointed out the fact that deafness always accompanies cleft-palate, because the muscles cannot act on the Eustachian tubes.

The absence of granulations and of eruptions will enable us to differentiate between this disease and those having a scrofulous or a herpetic origin. Patients fix the origin of their trouble at a very remote period, so that we may conclude that it is the continued use, rather than the abuse of tobacco, that is its cause. The disease is always curable in the early stages; but never when there is permanent thickening of the ligaments or the muscles of the ossicula, or a sclerotic condition of the membrana tympani. A cure is never effected unless the use of tobacco is abandoned.—Dr. Ladriet de Lacharriere, *Annales des Maladies de l'Oreille*, etc.

——A Substitute for Tracheotomy in Croup.—The *Canada Med. Rec.*, September, quotes Dr. Palvadeau, in *La Tribune Med.*, as using the hypodermic syringe for the purpose of injecting a solution containing equal parts of *sol. ferri perchlor.* and water, by piercing the trachea just below the thyroid cartilage. The membrane cannot resist this solution, and shreds rapidly come away, and cure follows speedily.

——The Horse.—Physicians who are fond of the equine will study with interest the *Scientific American*, October 19th, which gives a series of cuts of Muybridge's instantaneous photographs of the horse's manner of progression when walking, trotting or running. They were taken by means of an "automatic electro-photographic apparatus."

——Yellow Fever.—Among the deaths of volunteer physicians, we note that of Dr. E. T. Easley, of Little Rock, a man of great ability and promise. About two years ago an article of his on extra-uterine pregnancy was honored by quotation in full by the *Edinburgh Med. Jl.*, with a comment to the effect that it was a model of concise and thorough reporting. Dr. G. W. Kibbee, of Ohio, died in New Orleans; he it was who invented the fever-cot, of which Dr. T. G. Thomas has spoken so highly. Dr. K. died on one of his own cots, taken South for the relief of others.

——Infant Insurance has assumed such proportions in Great Britain, that unpleasant suspicions are aroused as to its effect upon infant mortality. *The British Medical Journal* states that parents, often on the verge of pauperism, and sometimes in actual receipt of Poor-law relief, by the payment of a penny a week to burial and other "friendly societies," acquire a pecuniary interest in the death of their infants. The papers are clamoring for comparative mortality statistics between the insured and uninsured classes of infants. The number of such insurances must

be very large indeed, for it is stated that a single company paid annually policy money on the deaths of more than eleven thousand children under ten years of age in the years 1872 and 1873. If this kind of insurance should gain a foothold in this country, there will be added, to the demands already existing for a systematic registration of births and deaths, an argument of such weight that it cannot longer be ignored or resisted by our State legislatures. It is scarcely necessary to refer to the almost uniform neglect of these forms of registration in the greater number of our States.

——Cardiac Depressants.—Dr. Norcom, of Edenton, N. C., in the address before the Pennsylvania University Alumni, takes the ground that these remedies are out of place in acute disease. The heart then acts with increased frequency, so that it may make up for lost power, and for diminished rapidity of the whole blood-volume. He supports his position by reference to Hering, and Flint, Jr. If this doctrine is maintained, it will materially alter the teachings concerning veratrum and allied drugs.

——A Choice Location for a physician is advertised in this number. The former owner, a physician, desires to go out of practice, and will either sell or lease.

——Record Your Work.—One faculty which raises man above the brute, and keeps him in his higher place, is that which enables him to transmit, by the spoken, written and printed word, from one generation to another, all of his work that stands the test of use. The power to transmit passes next into a duty—and nowhere else in the world is the observance of this duty more necessary than in the medical profession, since it is *the* empirical calling, of all others.

——Tophaceous.—A physician of this city has recently observed a prompt and thorough dissipation of the concretions of gout by the use of pure phosphorus. The hands, which were formerly swollen, bulbous and contracted from gouty deposits, are now restored to their normal shape and pliability, the feet also are markedly improved. The phosphorus is given at first in doses of one one-hundredth of a grain four times daily, and is gradually increased to the point of toleration. If this hint is put in practice by any of our readers, we will be pleased to hear of good or bad results.

——A Pen-Portrait.—The late Dr. Hodder, whilom President of the Canada Medical Association, is thus described by his successor in office, Dr. Joseph Workman: "A warmer friend, or a more generous and frank opponent (I say not enemy, for he was above enmity, I have never known, and I have in my time stood towards him in both posi-

tions. His friendship was no slipshod, crafty, poison-hiding utilization of his fellow-men, but the irrepressible impulse of an honest and honorable heart; and as to his antagonism, it was as open and earnest as was his jocund, rosy face. . . To say that he was faultless would be but to libel humanity, for lifeless are the faultless."—*Canada Lancet.*

——A Moribund Woman stood upon her head is restored to life. Dr. E. W. Jenks, of Detroit, gives the case in the *Am. Jl. of Obstetrics*, July. The case was one of extreme exhaustion with extreme tympanites The woman was so nearly moribund as to be entirely indifferent as to what was done with her. She was removed from her bed and gradually inverted. No effect from partial inversion; "but when we got her in the position of complete inversion—really standing on her head—there was, to our gratification and the manifest relief of the suffering woman, a rush from the anus of pent-up gas, coming forth with a force more remarkable than anything of the kind I had ever before observed." The patient, as she began to be relieved, began to complain in no mild terms of the unkind and ungentlemanly treatment she was receiving. From this time there was no further trouble, and no further need for "postural treatment."

——The other Societies which have enlisted in creating a relief-fund are not many: a district society in New Jersey, that of Ulster County in this State, and the Rhode Island Medical Society. . . . If we mistake not, Kings County may claim the honor of taking the initiative in this generous impulse, just as was the case after the woful Chicago fire, Kings was the first, or very early in the field. . . The profession being thus liberal to others, should next be kind to itself by creating a fund of $5,000 to $10,000, for its Library and meeting-room. Why not begin now?

——Inter-articular Body of the Shoulder-joint.—The late Dr. Isaacs, of this city, once operated for this supposed affection, but no such body was found. Dr. Bauer, in his "Memorabilia" (*St. Louis Clinical Record, Oct.*), believes he has seen a similar case, and guided by his knowledge of that of Dr. Isaacs, treated it as a bursitis of tendon of the biceps, and achieved a successful result.

——In a Report of the *Hay Fever Convention*, published by the "White Mountain Echo," reference is made to the case of Mr. R. B. Westbrook, a resident of Philadelphia, who came to Brooklyn and was treated at the Turkish Baths. He had been a hay fever subject about twenty years, but after a fortnight's treatment went back to Philadelphia cured, and had written this statement to be read at the Convention.

——The Average Age of Medical Men.—In the ten years ending 1876, there have appeared in the *Lancet* notices of the deaths of 2,684 qualified medical men, whose age at death has been recorded; of this

number the average age was 56.6. The period in which the largest mortality occurred was between 60 and 70 years of age—namely, 541 deaths, or 20 per cent. 18 deaths occurred of men over 90 years old.—*Lancet*. Sept. 28th.

——Milk is an agreeable solvent of quinine. Dr. Batterburg says one grain to the ounce is hardly perceptible, or five grains to the tumblerful "lose all their bitterness."—*British Med. Jl.*

——The Journal D'Hygiene (Paris), Numèro 103, 12 Septembre, 1878, thus notices our confrère: "Nous trouvons dans le Bulletin de Statistique de Brooklyn, une remarque très curieuse, à propos des 'effets alarmants de la grande chaleur.' Le savant directeur, le Dr. R. M. Wyckoff, apporte à l'ètude des influence meteorologiques sur la vie humaine un excellent contingent; il soulève une question intèressante qui demande à ètre étudiée de prés; le rapport de la mortalité avec les variations thermomètriques, rapport que nous nous efforcons de'établir dans chaque Bulletin mensuel."

——Dr. Eugene A. Groux, a prominent physician of the Eastern District, and one of the medical staff of St. Catharine's Hospital, died Oct. 15, aged 45 years, at 426 S. Fourth Street. He was formerly surgeon in the 28th Regiment, and at one time attached to the Board of Health. He graduated at the University of Goetingen in 1863. He was a native of Germany, and 13 years in this country. The cause of death was uræmia ; he was also the victim of congenital fissure of the sternum, and was well known to all physiologists in all parts of the world. A full account of the autopsy has been promised.

——Dr. Karl Albert Boner died October 15, in the 34th year of his age, at 270 Washington Street. He was a native of Hoverstadt, Germany, and came to this country fourteen years ago. He graduated in medicine at Harvard University, in 1868; coming to this city soon after, he joined the County Medical Society in 1869. Dr. B. had recently returned from a visit to Europe.

——Dr. Peter H. Sheridan died October 1, having being found drowned in the East River. He was about 34 years of age, a native of Ireland, and twelve years a resident of Brooklyn. He graduated from the University of New York in 1876. He resided at 219 Wyckoff Street.

——Dr. John B. Williams died at 252 Fifth Avenue, in this city, Oct. 13, at the age of 52 years, from cardiac disease. He was a native of England; for 25 years had been a resident of this country.

——Dr. John Haslett was born in Charleston, S. C., in December, 1799. He graduated A.B. at Harvard in 1819, studied medicine

in Charleston and Philadelphia, and graduated M.D., at the University of Pennsylvania, in 1822. In the summer of that year he entered, as surgeon, the U. S. Navy, and remained in active service until 1846, when he resigned his commission and has ever since been a resident of this city. He first came to Brooklyn on duty in 1823, but marrying here in 1826, his residence may be considered to date from that year. Soon after leaving the navy he became connected, as Vice-President, with the Board of Trustees of the City Hospital; Mr. Augustus Graham, to whose liberality the efficiency of the hospital in its present condition is so largely due, being President. On the death of Mr. Graham, about the year 1850 or '51, Dr. Haslett became President of the institution, and with a zeal bred of his great interest in its welfare, discharged the duties of his office until two years before his death, when a severe illness obliged him to give over the work that had occupied so much of his active life for so many years.

He was for many years, and up to the time of his illness, an active member of the Board of Management of the Packer Collegiate Institute, and was warmly interested in the sanitary and hygienic interests of this most important institution.

Throughout his long and useful career his life was characterized by a high sense of honor, emphasized by determination of character; and the example of his life is that of a cultivated and refined gentleman, unobtrusive, but impressive in its force and influence upon all who knew him well.

Dr. Haslett never fully recovered from this illness, and died on Saturday, September 28th, 1878.

——THAT A FELINE can be felt by feelin' when nothing else can be felt, has been demonstrated in Buena Vista, Ga. These many years Lewis Webb's feet and legs have been paralyzed, and he has gone about on crutches. He says that he can drive a knife through his foot and not feel it; that when he strikes his foot against any object he knows it by the resistance offered, and not by feeling. He frequently blisters his feet in walking, but knows nothing of it until the blisters burst. He washes his feet often—sometimes in cold, sometimes in hot water, but cannot tell by feeling in the foot whether water is cold or hot. Thus he has lived for eight years, sometimes walking about and often in bed. When a cat touches his foot he instantly feels it. The touch of a cat, even when he has stockings on, sends prickly sensations all through the foot. He may be blindfolded, but can instantly tell the touch of a cat, however slight. What comfort every old maid will derive from the reflection that there *are* chords in the human foot which only a pet cat can touch.

——Quarantine for Yellow Fever.—Surgeon-General John M. Woodworth does not believe in the necessity for absolute quarantine to prevent the spread of yellow fever. In a letter to the *Medical Record* he claims that evidence warrants the assertion that yellow fever poison is transported by things and not by persons, considered apart from their clothing. He gives several illustrations of this, and cites as a well-known fact that the unacclimated attendants upon the yellow fever patients at the New York Quarantine never contract the disease. The disinfection of clothing, baggage in boxes, trunks, valises, etc., should be done, he urges, just outside an infected city, at the commencement rather than at the end of a journey. When the yellow fever breaks out among the resident population of a city or town, all unacclimated persons should be prohibited from entering the infected place, and the unacclimated residents should be removed to temporary camps on the highest available ground, at least two miles outside of the infected locality. But there should be established an intermediate station, where the clothing and other effects of the fleeing people shall be thoroughly disinfected before they are permitted to enter the camp.

——Hot and Cold Baths.—The *London Lancet* in a recent number points out the difference between the effects of hot and cold baths. The effects of the cold bath, it says, being mainly due to impressions made upon the cutaneous nerves, the modifications of the cold bath largely depend on their power of increasing its stimulating action. The colder the water, the more violent the impression. The frequent change of water, such as is found in the sea or in running streams, increases the stimulating effect. Great force of impact, as when water falls from a height or comes forcibly through a hose upon the body; the division of the stream, as seen in shower baths and needle baths; and the addition of acids or salt to the water, all act, it would seem, by increasing the stimulating power which the water exerts upon the cutaneous nerves. Warm baths produce an effect upon the skin directly contrary to that brought about by cold water. The cutaneous vessels dilate immediately under the influence of the heat, and although this dilation is followed by a contraction of the vessels, this contraction is seldom excessive ; and the ultimate result of a warm bath is to increase the cutaneous circulation. The pulse and respiration are both quickened as in the cold bath. The warm bath increases the temperature of the body, and by lessening the necessity for the internal production of heat, decreases the call made upon certain vital processes, and enables life to be sustained with a less expenditure of force. While a cold bath causes a certain stiffness of the muscles, if continued for too long a time, a warm bath relieves stiffness and fatigue. The ultimate results of hot and cold baths, if their tem-

perature be moderate, are about the same, the difference being, to use the words of Braun, that "cold refreshes by stimulating the functions, heat by physically facilitating them; and in this lies the important practical difference between the cold water and hot water systems."

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The November meeting will be held on the 19th, at which time there will be presented the following papers:

Fibrous, Catarrhal and Tubercular Phthisis, by Dr. P. H. Kretzschmar.

The Arsenical Treatment of Chorea, by Dr. L. C. Gray.

The Treatment of the Diarrhea of Children, by Dr. Jerome Walker. At this meeting the Society will be honored by the presence of Dr. D. B. St. John Roosa, President of the Medical Society of the State of N. Y.

——New Members.—At the October meeting, Drs. Joye and Carreau were elected, and the following names were proposed: Drs. Benj. Ayres, 241 Putnam Ave.; Guy C. Daly, Flatbush; J. N. Farrar, 103 South Oxford Street; H. G. Small, 61 Seventh St., E. D.

MEDICAL SOCIETY OF THE COUNTY OF KINGS

OFFICERS AND COMMITTEES FOR 1878.

President.....Alex. Hutchins, M.D., 796 De Kalb Ave.
Vice-President.....C. Jewett, M.D., 310 Gates Ave.
Secretary.....R. M. Wyckoff, M.D., 532 Clinton Ave.
Assistant Secretary.....G. A. Evans, M.D., 449 Bedford Ave.
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CENSORS.

J. D. Rushmore, M. D., (Senior Censor), G. W. Baker, M. D., R. M. Buell, M. D., J. H. H. Burge, M. D., F. W. Rockwell, M. D.

DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

Drs. J. C. Shaw, S. G. Armor, R. M. Wyckoff, Drs. A. J. C. Skene, G. G. Hopkins, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

COMMITTEES OF THE SOCIETY.

HYGIENE.

Drs. F. H. Stuart, T. P. Corbally, J. Walker, W. E. Griffiths, J. H. Hunt.

REGISTRATION.

Drs. C. H. Giberson, W. E. Griffiths, J. A. Jenkins, Drs. W. G. Russell, N. Matson, F. W. Rockwell. Drs. R. M. Buell, R. W. Wyckoff,

PUBLIC INSTRUCTION.

Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, NOVEMBER 19, 1878.

THE ARSENICAL TREATMENT OF CHOREA.

BY L. C. GRAY, M.D.

In regard to the efficacy of our therapeutics, there is abroad in the profession a feeling of skepticism, which, albeit often unconsciously actuating its possessor, is yet, on that very account, the more deleterious in its influence upon medical thought and action. It is scarcely to be wondered at. At a time which I have no doubt is within the memory of gentlemen present to-night, every dispensary had its "bleeding-room," and the lancet was considered to be a more indispensable instrument than any which the general practitioner now carries. To-day I question whether there will have been a dozen, nay, half a dozen, venesections in this large city in the last twelve calendar months. All the sedatives, depressants, revulsives, nauseants, emetics, low dietaries, have fared the same fate, in the same period of time. Every one of these remedies had its advocates among experienced and distinguished observers, who cited cases in support of their views every whit as satisfactory as many of those which satisfy medical gentlemen of the present day. Nevertheless, they have, one and all, been almost entirely discarded. The experience of generations, venerated, often justly, in other particulars, has been inexorably and indiscriminately scouted in this. What wonder, then, that the sudden crash of so venerable a system should inspire men with profound suspicion of human testimony in matters therapeutic, and should hamper the erection of the new structure that is progressing so painfully, slowly, gropingly. This attitude of incredulity is very natural. It is, moreover, of good omen for the future, as long as it is judiciously main-

tained, and does not degenerate from scientific alertness into a blank nihilism which nothing can convince. It is time that writers upon therapeutics should scrupulously conform to the requirements of this sentiment. It is time that men should know that we want facts in the stead of opinions; or, at least, the facts first, the opinions afterward. Such facts are to be gathered, not from our present inconclusive experimentation upon animals and physiology, but in the actual treatment of disease, so recorded that it can be offered to the inspection of every one who may choose to judge for himself of its value. Thus, and thus alone, can speculation be avoided, inaccurate observation prevented from misleading, and accurate observation receive its proper recognition.

In accordance with these views, the following remarks are offered as a contribution to the subject indicated by the title of my paper.

During the past year I have treated some twenty-seven cases of chorea with arsenic. The average age was nine, the minimum five, the maximum sixteen. Six of the patients I have been enabled to keep continuously under my own observation from the beginning of treatment to the entire disappearance of the symptoms. It has, of course, been necessary to accept the statements of relatives and friends as to the exact period of onset. I have made use, in every instance, of Fowler's solution of arsenic, the Liquor Potassæ Arsenitis, commencing invariably with three drops thrice daily after meals, and increasing this amount every second day by one or two drops, until there was either distinct abatement of the disease, or until some slight toxic effect appeared, as an occasional nausea, or quickening of intestinal peristalsis, or a slight puffiness beneath the eyes, or a passing cephalalgia. Should any more decided toxæmia than this have resulted, I have reduced the dosage drop by drop, being careful, however, not to diminish the quantity too hastily or too much. As a vehicle for these doses I have employed the Tr. Cinchonæ Comp., one drachm or half a drachm at a time, for I have found that the arsenic is less apt to cause gastric disturbance when given in this manner than when administered simply in water. It has been my custom, nevertheless, to largely dilute even this mixture with water, since I deem it a matter of great moment to take every available and harmless precaution—even though it may often be superfluous, especially in children—to prevent any decided irritation of the stomach.

Four of the six cases were cured after attaining a dosage of seven drops three times daily, while five drops thrice daily sufficed for another, the remaining one recovering with two drops given at the same intervals. In three individuals of the twenty-seven the medicine could not be pushed to the proper extent. The mother of one of these children, a very stupid woman, insisted that the little patient would vomit immediately after be-

ing given one drop, but I had reason to doubt whether the parent could measure so small a quantity. In the second patient, likewise through the blunder of the parent, dangerous symptoms were induced, while there supervened a decided nausea, cephalalgia, and gastralgia in the third, which speedily passed away upon the discontinuance of the remedy. I would have it borne in mind that every case was cured that was retained under treatment for the adequate period of time, which I shall specify in a moment, and that in no one of those uncured because of insufficient length of treatment did signs of improvement fail to appear, the more marked in proportion as the medicament was longest continued. The exclusive treatment in all these cases was by the Liq. Potass. Arsenitis. No directions whatsoever were given in regard to hygiene or food; and as all these patients were seen at my clinic in the out-door department of the Long Island College Hospital, neither the hygiene or food could have exerted any material influence upon the result.

The average duration of the six cases, from the beginning of treatment to the absolute cessation of the movements, has been 24 days, the maximum 38 days, the minimum 13 days; while the average period from the earliest symptoms to their disappearance has been 55 days, the maximum 103, the minimum 21.

An attempt has been made of late, with earnest ability and an imposing array of clinical material, to prove that the duration of chorea treated upon the so-called "expectant" plan is no greater than it is under the exhibition of any drug; or, in other words, that when a choreic patient is surrounded with the favorable hygienic influences of a hospital or an infirmary, and at the same time supplied with wholesome, nourishing diet, the cure will be effected as speedily as when arsenic, iron, zinc, and others of this ilk, are administered. In 1862 Dr. Wilks,* inaugurated this era of doubt by citing four cases which he had managed in this manner. The subject seems to have passed out of memory for upwards of a decade. In 1871, Drs. Gray and Tuckwell† again enthusiastically lauded the merits of the "expectant" method, publishing eighteen cases in support of their views, to which they added twenty in 1876,‡ making a total of thirty-eight. Up to the present day these claims would seem to have been accorded a general acceptation; or, at least, I am not aware that any public opposition has been made to them. Are they valid? is a question which I have long been asking myself, which has prompted me to an investigation of this subject, and to which, I think, an answer can be found in my own observations, of which I have just spoken.

*Med. Times and Gaz., March 22, 1862.

†Lancet, 1871.

‡Lancet, Feb., 1876, p. 710

The average duration of Dr. Wilks' cases under the "expectant" treatment was 50 days, while if the duration after admission to the hospital be computed in the cases of Drs. Gray and Tuckwell, it will be found to be 36 days. As the average duration of my cases treated with arsenic was 24 days, there is evidently a difference in favor of the latter of 15 days as against the cases of Drs. Gray and Tuckwell, and of 26 days as against those of Dr. Wilks. It may be objected, seemingly with force, that my six cases are so disproportionate in number to the thirty-eight of Drs. Gray and Tuckwell, as to render the comparison unjust to the latter. The objection, however, is more apparent than real. In the first publication of these gentlemen Dr. Gray gave the details of six cases, Dr. Tuckwell those of twelve, while in their last paper Dr. Gray narrated the histories of nine cases, Dr. Tuckwell giving those of eleven. It is clear that if the average be reckoned in each of these groups, and compared on the one hand with the average obtained from all these cases, while on the other hand it be compared with the average of my cases, a very correct idea can be obtained of the discrepancy that may exist between the averages of a small and a large number of cases. If this be done it will be ascertained that Dr. Gray's first six maintained an average duration under treatment of 38 days, his later nine cases of 36 days, while the earlier twelve cases of Dr. Tuckwell lasted 32 days, the eleven more recent ones 36 days; or, in brief, the difference between the lowest average of any individual group, thirty-two, and the average of all the cases, thirty-five, may be 3 days. This possible source of error being admitted, as I am perfectly willing to do, there still remains a balance of twelve days in favor of the arsenical treatment of chorea; this balance, by comparison with some of the groups, mounting as high as 16 and 18. It is thus manifest that the average duration of thirty-eight cases of chorea treated with arsenic would not vary essentially from the average duration of six cases so treated. Denial of this certainly would be hypercriticism.

In computing the average duration under their method of treatment, Drs. Gray and Tuckwell have included the duration of the disease *prior* to the patient's admission into the infirmary. This is obviously improper. Their own figures show that this prior duration may vary from 3 to 84 days! The average of this prior duration in my cases was, moreover, 39 days, while in theirs it was 31 days; my cases, therefore, having been ill some 8 days the longest. Unless, then, it be asserted that chorea will last the same length of time, whether the hygiene and nutrition be good or bad—an assertion which I am certain these gentlemen do not make—this prior duration must be excluded. Were I, however, to admit it, there would still remain a balance of 12 days in favor of the

arsenical treatment, the total duration of my cases having been 55 days, as against 67 in the English patients.*

In singular corroboration of the figures at which I have arrived, twenty cases of chorea treated with Fowler's solution of arsenic in St. Thomas' Hospital in London, in 1858, averaged 26 days. No details are given. And these figures, in their turn, add substantiation to the opinion so long prevalent in the profession, as to the unsurpassed value of arsenic in the disease under consideration; an opinion which, be it said to the honor of American medicine, was first emphatically enunciated in a communication published in 1839† by Dr. D. M. Reese, of Albany, and to whom, therefore, and not, as is generally stated, to Dr. James Begbie, of Edinburgh, whose paper was read in 1858, belongs the credit of having been the first to call the attention of the profession to this important clinical fact‡.

I have sought, but only with measurable success, for statistical material wherewith to institute a comparison between the arsenical and other modes of treatment. Sulphate of zinc in increasing doses, as well as the preparations of iron, were administered to a number of patients in St. Thomas' Hospital in the year mentioned above. Of eight cases to whom the zinc was given, five only were cured, the remaining three being merely improved, whilst the average duration under treatment of the cured cases was 29 days. The ferruginous preparations affected a cure on the average in 44 days. Five cases are recorded by Mr. H. T. Butlin§ as having been cured by the sulphate of zinc in 37 days upon the average, whether with increasing doses or otherwise is not stated. Other reliable figures than these I have not been able to find. It is needless to point out that these bear no comparison with those obtained in the treatment by Fowler's solution.

But notwithstanding that the arsenical treatment of chorea in the manner described checks, as I am persuaded, the course of the disease more quickly than any other remedy of which we possess knowledge, the "expectant" treatment is by no means to be contemned. I dispute simply its relative, not its actual, value. Of the latter there is abundant proof, which can be found partly in my preceding statements upon the

*The total duration of their cases, as given by Drs. Gray and Tuckwell, is 69 days. But I have omitted case three of Dr. G.'s latest publication, because of the relapse from an accidental cause, not connected with the disease. I have thus reduced the time by 2 days.

†N. Y. Journ. Med. and Surg., Oct., 1839.

‡Ed. Med. Journ., vol. 3, 1857, 1858, p. 961 read before the Med. Chir. Soc., Edin., April 7, 1858.

§Lancet, Oct. 21, 1871.

subject, partly in the histories of many of the cases detailed by Drs. Gray, Tuckwell and Wilks. The latter gentleman tells of one patient, for example, who had been ill two years, under treatment in the out-door department for twelve months, and who was cured in two weeks after admission to the hospital. And it would be equally unjust to deny that the sulphate of zinc or the ferruginous preparations possess efficacy. On the contrary, I believe that were the treatment of chorea to be directed in rigidly logical accordance with what accurate information we can command, it should consist of a judicious combination, according to the circumstances, of two or more of these remedies. Foremost of all in effectiveness I should deem the administration of Fowler's solution of arsenic, accompanied by good hygiene and a sufficiency of nourishing food. The arsenic should be administered in promptly and steadily increasing doses to the supervention of slight toxæmia or the distinct remission of the movements; and the patient should live in well-ventilated apartments, should have necessary but not excessive exercise, should be well protected by adequate clothing from atmospheric changes, should have abundant sleep at seasonable hours, should be removed from all sources of excitement and especially from all emotional disturbance, and should be properly supplied with savory, nutritious aliment. Should there happen to co-exist anæmia or a similarly indicative condition, it would be eminently proper to add iron. The conviction almost forces itself upon me that a series of cases carefully subjected to this conjoint treatment would show more favorable results than any yet obtained. Should the arsenic for any reason be inadmissible, the sulphate of zinc should take its place, commencing with two grains, and gradually increasing every few days by a grain, until the drug produces some slight ill symptoms, or until improvement, whereupon the dosage should be maintained to the cure. In a certain proportion of cases, however, as in the vast majority of those seen in dispensary practice, proper hygiene and nourishment cannot be had; and it is precisely in this class that it becomes of paramount importance to determine the relative value of the drugs, upon one or more of which we must alone rely. In regard to this class, I should arrange a scale, headed by arsenic, to which should succeed respectively, sulphate of zinc and iron; and any combination of these should be in pursuance of the preceding rules.

DISCUSSION.

Dr. Sherwell suggested that half-drachm of Huxham's tincture, used as the vehicle of the Fowler's solution, might, by virtue of the quinine

it represented, have had some influence in the results of the arsenical treatment.

Dr. Armor believed that the Fowler's solution was the best *single* remedy for chorea, but he had long used, with great satisfaction, the cimicifugin, the active principle of the cimicifuga racemosa (black cohosh), combined with small portions of podophyllin. This treatment, alternated with the arsenical treatment, oftentimes yielded the best results.

FIBROUS, CATARRHAL AND TUBERCULAR PHTHISIS.

BY P. H. KRETZCHMAR, M.D.

Part I.

The object of this paper is to call attention to the value and importance of classifying cases of pulmonary consumption into three distinct varieties, to wit: *fibrous, catarrhal, and tubercular phthisis;* and to bring forward, at the same time, the most essential points for making a proper diagnosis. The prophylaxis and the treatment of the disease will not be considered in this article—the same should be regarded as an introduction to another one, dealing with that subject. There are numerous and important reasons for making a rational and scientific classification of all cases of consumption, because, though the symptoms of the three varieties are almost the same, the pathological changes, the natural histories of the prognosis are very different. Above all stands the influence which the recognition of the true nature of the disease must necessarily have on the treatment and prophylaxis. If pulmonary consumption is considered as depending always and only on the formation and breaking down of tubercles in the lungs, and if, on the other hand, tubercles are—as they properly should be—considered as neoplastic growths, the prognosis in a vast majority of cases would be unfavorable to the extreme, even during its earliest stages. It is true, tuberculosis may, according to the testimony of good authorities, end in recovery; in rare cases the tubercles undergo fatty degeneration, and from the fact that resorption is possible after all the material has undergone fatty degeneration, Virchow has come to the conclusion that, in such cases, perfect recovery may take place. His statement, however, is hypothetical only,

as such a process, in all its stages, has not been anatomically proven. In other exceptional cases, calcareous degeneration—petrifaction—occurs, being the most favorable termination, putting an end to the dangerous character of the tubercular disease, and leading to recovery. A well-known American writer goes further yet, and says, "Tuberculosis may end in recovery from an intrinsic tendency, that is, without any therapeutic or hygienic measure being employed."

After mentioning the various ways by which tuberculosis may terminate favorably, I shall not discuss the question, how much encouragement we can give our patients if the diagnosis of tubercular disease has correctly been made. Allow me, however, to call your attention to the different prognosis, to the wide field of prophylactic management and treatment which opens itself, if we look at it in the light of modern medical science and accept the theoric that certain *inflammatory* changes which occur in the lungs are, in a majority of cases, responsible for the development of consumption. A short time ago, while discussing the subject of phthisis, a well-known member of the profession said : "What in all the world is the difference whether the condition of a consumptive patient, the hectic fever, the night sweats, the diarrhœa, the great emaciation, and all the other well-known symptoms of the last stage of phthisis, originated primarily in the cheesy degeneration of inflammatory (pneumonic) products, or in the breaking down of tubercular masses?" The answer to such a question is simple and decided : There is just as much, and perhaps a greater difference, between the several varieties of phthisis, as there is between interstitial and parenchymatous nephritis. In the interest of rational medical science it is just as necessary to differentiate the varieties of phthisis as it is to separate chancroid from chancre, or to find the primary cause for any dropsical or diarrhœal condition. If cheesy degeneration has commenced its destructive work—whether the affected masses be of catarrhal, croupous, fibrous or tubercular origin, the future course in all these conditions, genetically so different, is about the same, and is known under the general name of "phthisis pulmonalis." From what has been said it will be seen that under the name of phthisis pulmonalis we include a number of symptoms and signs, which, although resembling each other closely, in reality belong to a number of conditions which, in regard to pathologico-anatomical changes, etiology and natural history of disease, differ widely.

It is safe to say that, just in proportion as our medical knowledge advances, the number of cases which are included under the common name of phthisis pulmonalis will diminish, and a more scientific classification be made. At a late stage of the disease a careful distinction between the several varieties is not of vital importance ; because at that

time the prognosis of the case is not favorable, and the most careful management is rarely successful. If, however, the patient comes under the physician's care while the disease is in its earliest stages, during the time of pulmonary consolidation, before any cheesy degeneration has taken place, the prognosis is much better. If at that time the existence of tubercles can be excluded with a reasonable amount of certainty, we are in a position to hold out considerable hope for the patient, and to have found a condition on which therapeutical efforts can be based. Niemeyer, in his excellent article on pulmonary consumption, says: "After it has been recognized that in a majority of cases consumption has an inflammatory (pneumonic) origin, and that only exceptionally true tubercles cause the development of the disease, the therapy of phthisis has gained a great deal, and has become much more of an exact science. It is true that, through our increased knowledge of the pathology of the disease, we have not yet found any remedial agent which deserves the name of a 'specific,' but in proportion as we become acquainted with the true character of any disease, the indications for the use of the different remedies become more positive."

The teaching of Bayle, Laennec, Andral, Louis and their followers—regarding every case of phthisis pulmonalis as of tubercular origin, and considering all cheesy substances found in the lungs as tubercular products—are the accepted theories yet with the majority of American physicians. But many of the best men in the profession are among the followers of the more modern views, as first represented and taught by Felix v. Niemeyer. Allow me to refer, for a moment, to what Prof. Alfred L. Loomis said in his paper on "The Climatic Treatment of Phthisis Pulmonalis," read before the American Medical Society in Buffalo, June, 1878: "Formerly every variety of phthisis was believed to be due to a neoplasm called tubercle, which was developed in the lung tissue, and afterwards passed through a great variety of changes. At the present day many believe that there is nothing in these anatomical changes which cannot properly be classified under the head of inflammation. The processes of inflammation, as we now study them, are so numerous and varied that they include all the changes that are found in the lungs of those that died from any form of phthisis. While one class of these changes may be produced by inflammatory changes within the cell elements of the lung-tissue, another class may be due to an inflammation which results in the production of serum, fibrin and pus. Necrotic and reparative inflammatory processes may give rise to another set of changes in the lungs, and tubercular inflammation may cause the development of those nodular masses, concerning which recently there has been so much discussion." After speaking about the different forms of phthisis

the same author continues: "These different anatomical changes in the lungs differ so widely and give rise to such varying phenomena in the course of their development, that, in order properly to estimate the value of remedial agents, the power of hygienic surroundings and of climate to prevent or arrest their development, there must be a careful analysis of our cases, that we may determine the variety and stage of development of each case which comes under our observation." Prof. Rühle, in his article on pulmonary consumption, in Ziemssen "Cyclopedia of the Practice of Medicine,"* says: "The term consumption of the lungs, whether used in its strictly literal signification or even scientifically, is merely an expression for the common results of a variety of forms of diseases in the respiratory organs. The initial stages of none of these forms necessarily lead to phthisis, but each of them may do so; in some this result almost always follows; in others, only occasionally." At another place the same writer says: "Moreover, these different forms are very rarely met with unmixed: one form passes into the other, and although for purpose of study we separate them from each other, yet they are all to be regarded as the same disease, merely different modifications of the course of phthisis pulmonalis. When, however, we come to speak of the diagnosis, course and prognosis of the disease, it is better to separate the morbid process into its chief types."

We can easily see that the two writers just quoted do not agree as to the importance of classifying cases of pulmonary consumption. Loomis, the practical American, says, "*It is very necessary to make such a classification for the purpose of properly estimating the value of remedial agents, etc., to prevent or arrest the disease.*" Rühle, the learned German, does not mention the influence on treatment which a proper classification has, but simply says, "If we come to speak of the diagnosis, course, and prognosis, it is better to separate the morbid process into its chief types." It is certainly very necessary to pay proper attention to the pathology of diseases, and to investigate the interesting study of their natural history, but the all-important question—the one which interests our patients most—is that of treatment. If we admit that prognosis and treatment are not the same in the three forms of phthisis, the necessity for a careful classification is self-evident. Allow me to refer once more to Dr. Loomis' paper on treatment. He says: "In tubercular phthisis I have never known climate to produce favorable results, while in the other two varieties it has shown such power in arresting and controlling the disease, that I have been led to the careful study of those climactic conditions which are able to produce such results. . . . Cases of *tubercular*

* Vol. V., p. 582. Translation.

phthisis do best in the quiet, well-ventilated apartments of their own homes, where they can be surrounded by all those influences and circumstances which tend to make the feeble invalid comfortable. Cases of *fibrous* phthisis, even at a late stage of the disease, improve, and often reach a condition of comparative health, when they take up their residence in regions of very high altitude, such as are found in Colorado and in the Rocky Mountain range. I know of no locality where this class of pulmonary invalids make such rapid and permanent improvement. Experience has taught me to be very cautious in recommending those regions of high altitude to invalids with catarrhal phthisis. In the advanced stage of this form of phthisis I have never seen good results from a residence in those regions, and it is quite doubtful whether any one, in its first stage, has received benefit of it. The best results, in the stage of consolidation of the catarrhal form of phthisis, have been reached in those who have made a prolonged stay in mountain regions of an elevation of from 1,500 to 2,000 feet."

In many instances it is exceedingly difficult to detect the primary origin of consumption, and the treatment has to be carried out on general principles. There are, however, certain symptoms and signs which belong more often to certain conditions, and rarely to others. These points of difference are most marked in the first stage of the diseases, and sometimes in the terminations. In attempting to give here a diagnostic review, it must be stated that my intention is simply to tabulate the most important points in the best possible shape. The practitioner should never forget that these inflammatory conditions often exist in connection with each other; that they run from one kind into another; that they have a number of symptoms in common, and that some of the symptoms mentioned are not always present.

The following classification answers the purpose:

Fibrous phthisis } Chronic variety.
} Syphilitic form.

Catarrhal phthisis } Acute variety.
} Chronic variety.

Tubercular phthisis.

Fibrous, or, as it is freqently called, "interstitial phthisis," is, in the majority of cases, a secondary disease, but it occurs often enough primarily to possess interest to the practitioner. The first changes occur in the interlobular and intervesicular connective tisue, and are connective hyperplosias, causing an enormous increase of the interstitial tissue at the expense of the lung tissue proper: cirrhosis of the lung. The newly formed connective tissue undergoes the same changes as other inflammatory products belonging to the same class. From a soft, pulpy mass,

with numerous blood-vessels, it changes to a hard, fibrous, bloodless tissue. The *chronic variety* may be developed after long-continued bronchial difficulties (peribronchitis chronica), or from the continued inhalations of small particles of dust, iron, coal, flour, etc.; or it may follow an attack of croupous pneumonia.

The termination of a case of croupous pneumonia in cirrhosis of the lung must be supposed, if the *acute* affection takes on the character of a *chronic disease* without the development of any hectic symptoms, the thorax on the affected side begins to shrink, and if, later in the disease, the symptoms of bronchoectasis are developed. As in cyrrhosis of the liver, strong fibrous bands are found to cross the parenchyma of the lung in all directions, and divide it into many larger and smaller lobes. The surface of such a lung has a granular appearance, and by cutting through it, it can be seen with the naked eye, that the parenchymatous tissue of the lung is compressed and consolidated, but not destroyed, by the newly-formed connective tissue. The continued inhalation of coal dust (anthracosis), as well as that of iron dust (siderosis), sometimes causes fibrous phthisis. The frequent occurrence of diseases of the respiratory organs among miners, bakers, stone-cutters and other people inhaling insoluble particles of dust for a long time, may be thus explained. The small particles first enter the smaller bronchial tubes and cause a catarrhal condition there; afterwards they emigrate into the connective tissue and cause a hyperplasia, as mentioned before. Frey* says: "It is a curious feature in the existence of the interstitial connective tissue of the lung, that there is frequently a certain amount of black pigment deposited in it. It was for a long time supposed that this pigmentation resulted from a deposit here of true melanine. But from the fact of its not being present in the lungs of wild animals, while in men living in an atmosphere of smoke, and loaded with soot, it is found in large quantities, it was inferred that the true origin of the pigmentation must lie in the inspiration of particles of carbonaceous matter. These views seem to be confirmed by observations, further made on the organs of those engaged in occupations which necessitate their breathing an air charged with suspended dust of various kinds; as, for instance, those of coal-miners, whose lungs may be found to be perfectly black. In cases of chronic bronchitis or peribronchitis the inflammation extends from the walls of the bronchi to the interstitial tissue, and causes the same changes mentioned above. If emphysema exists in a case of fibrous phthisis following chronic bronchitis, the shrinkage of the thorax may be slight or wanting.

Diagnosistic Signs.—1. The previous history of the patient, no hereditary tendency.

* Histology of Man, p. 452.

2. The etiology of the case, the patient's occupation.

3. The patient's age, frequently over thirty.

4. None or little fever.

5. Absence of throat complications and diarrhœa.

6. Later in the disease, cough with expectoration of stinking sputa and other signs of dilated bronchi.

7. Contraction, well marked, and diminished expansion of the affected side.

8. Increased vocal fremitus—to differentiate from a shrinkage due to pleurisy.

9. Dullness of percussion sound over the affected part.

10. Diminished respiratory murmur over the affected part.

11. Absence of fine, moist crepitations.

Syphilitic Fibrous Phthisis.—Bäumler, in his article on syphilis, says* : "Syphilitic affections of the lungs were described by most physicians of the last century as a peculiar form of phthisis ; but no anatomical changes which were characteristic of this form of lung disease were discovered, and Morgagni asserted that syphilis merely predisposed to the development of ordinary phthisis. It is only within the last few decades that the fact has been established, chiefly from the examination of lungs of syphilitic infants, that in syphilitic disease of the lungs changes take place which are similar to those seen in the liver and other internal organs. From a merely clinical point this much might be urged in favor of the supposition of a syphilitic phthisis, namely, that in a certain number of cases of well marked pulmonary phthisis the administration of anti-syphilitic remedies was followed by a rapid recovery." After mentioning several ways by which syphilis may affect the lungs, the same author continues : "There is a more or less diffused form of chronic interstitial pneumonia leading to the formation of fibrous cicatrices in the lungs which has been referred by several authorities to syphilitic origin." The importance of differentiating a case of syphilitic phthisis from either the catarrhal or tubercular kind is too striking to be discussed any further. In one, anti-syphilitic treatment leads to recovery, and the best hygienic surroundings, the most skillful anti-phthisical medication are of no avail, while iodide of potassium and mercury, if used in cases of ordinary phthisis, hasten the fatal issue. Cases of syphilitic fibrous phthisis have frequently been reported, and very lately by Wagner, by Grandidier† and by Sacharjin.‡ Several observers, and more especially Grandidier and Sacharjin, have found that the *right lung*, and most fre-

* Ziemssen's Cyclop. of the Practice of Med., Vol. III., page 211.

† Schmidt's Jahrbücher, vol. 167, p. 36. ‡ Ibidem, vol. 177, p. 246.

quently the *middle lobe* of it, is, by preference, affected by syphilis. It may of course occur that a consumptive subject acquires syphilis, or that either variety of phthisis be developed in a syphilitic subject, and the diagnosis may, under such circumstances, be very difficult.

Diagnosistic Signs.—1. The syphilitic history of the case.

2. The strong constitution of the patient. Debilitated, syphilitic subjects, with a phthisical tendency, would, in most instances, die from consumption before the late symptoms of syphilis could be developed.

3. The objective symptoms, showing consolidation of a portion of the lung: over the affected part dullness on percussion, diminished expansion of chest, diminished respiratory murmur, increased vocal fremitus, well-marked contraction of infra and supra clavicula space, absence of small, moist crepitations.

4. Dyspnœa and "heavy feeling"—sometimes pain in the chest.

5. Absence of hæmoptysis.

6. The small amount of expectoration and moderate cough.

7. The absence of hectic fever.

8. The excellent results of an anti-syphilitic treatment. The beneficial effect of mercury and iodide of potassium shows itself after a very short time.

Catarrhal Phthisis.—Unquestionably, the majority of cases of pulmonary phthisis are of the catarrhal variety.* Prof. Colberg says,† that of a hundred phthisical lungs which he examined, ninety cases belonged to the catarrhal variety, and but ten were of tubercular origin. Niemeyer's statement, "that the greatest danger for consumptives is to become tuberculous," shows that even he did not emancipate himself entirely from the influence of Laennec's teachings, and that he has mistaken cheesy deposits for tubercular ones. C. F. Kunge, in his recent work on "Practice," says: "Examinations of late date have proven that, while tubercles have always the tendency to undergo cheesy degeneration, and therefore cheesy material is almost always found in tubercular lungs, yet, only in exceptional cases does true tuberculosis join the cheesy degeneration of inflammatory products. Depending on my own post-mortem examinations, and on those of others, I claim that the inflammatory process of cheesy degenerations, *as such*, with the symptoms of phthisis, *leads to a fatal result, and that only in rare cases does true tuberculosis combine with it.* The first anatomical changes occurring in catarrhal phthisis are purely superficial and epithelial in their nature; they are those of a desquamative catarrh; they consist in a proliferation of cells in the epithelium of the

*Loomis. Climatic treatment of phthisis.

†Archiv. für Klini Mediciu, ii, p. 473.

alveoli. The newly-formed epithelial cells lie close together, being separated from each other only by a small amount of serum. If the disease progresses the intense and close accumulation of cells causes a compression of the vessels within the walls of the alveoli, and, from their mutual pressure, a fatty degeneration of the cellular elements occurs, which is modified by the expulsion of the watery portion, and which is known as "*cheesy degeneration.*" This cellular infiltration may take place either in single alveoli by themselves, or in single ultimate bronchial tubes with their alveoli, or a considerable part of the lung—especially in the apices—may be infiltrated in all its alveoli. In consequence of the compression of their vessels the walls of the alveoli become necrosed, the cheesy deposits enlarge and the neighboring deposits unite, until, finally, they form one large mass of cheesy material. While the cheesy deposit enlarges, some of the material in the interior of it commences to break down, and a soft, pulpy centre is formed, which constantly increases in size. The result of the enlargement of the cheesy deposits and their softening is the formation of a cavity.

The acute and chronic variety of catarrhal phthisis differ in no other way than *duration;* the former extends, generally, over a few months, the latter runs its course slowly, and may last from one to twenty years. The acute variety—generally known as "*galloping or hasty consumption*"—is mistaken by some, who otherwise accept the modern view, for *acute tuberculosis.*

The diagnosis of catarrhal phthisis, with the present state of our knowledge, is often very difficult; in many instances it is even impossible to make a clinical distinction between catarrhal and tubercular phthisis.

The physical signs are the same in the two forms. The following symptoms are more or less characteristic of catarrhal phthisis.

1. The disease commences with a *very obstinate bronchial catarrh*, located most frequently in *one of* the apices of the lung.

2. The expectorations are, as a rule, *scanty.*

3. The bronchial symptoms are accompanied by a lingering "*remittent fever.*"

4. The patient complains of a sensation of *tightness and pressure in the chest.*

5. After the symptoms just mentioned have existed some time, the strength of the patient fails, and former deposits of fat disappear.

6. The disease frequently attacks persons over thirty years of age.*

*During the years 1872 to 1877, 7,169 deaths have been reported in this city from phthisis pulmonalis. Of these occurred 4,633 cases, or 64.4% in persons over thirty, and 2,609 cases, or 36.4% in those over forty years of age. Sixty-three cases have been reported, occurring between the ages of eighty and one hundred.

7. Copious hemorrhage often takes place early in the *course of the disease.*

8. Laryngeal, meningeal and diarrhœal symptoms are absent, as a rule.

9. The disease often attacks persons with a good family history, though a predisposition to it may be, and frequently is, inherited.

10. The disease often runs a very rapid course.

Tubercular Phthisis.—Acute miliary tuberculosis should not be considered as an active variety of phthisis; its symptoms have no similarity to those of any of the forms of phthisis, they are almost identical with those of typhoid fever, and the disease may properly be regarded as an acute infectious one.

Chronic tubercular phthisis is a disease of frequent occurrence, but we have now, excluding those inflammatory changes, which were formerly considered as tuberculous affections, no satisfactory statistics in relation to its positive frequency. The *general causes* of tuberculosis are either those which have been inherited, or those which have been acquired by unfavorable external influences, with a large majority of the former. The *exciting causes* consist in repeated affections of the respiratory organs; in frequent irritations of these, in the continuous breathing of *impure air*, not only impure—mechanically—from the presence of dust or fine particles of any kind, but impure—chemically—from the presence of an increased amount of carbonic acid and organic matter contained in it. Increased moisture of the air and great moisture of the soil are also said to favor the development of tubercular disease. As this paper is not intended, however, to be a treatise on tuberculosis, this only may be said about the nature of tubercles.* "Tubercle is an infiltrated or nodular, almost always multiple, round or irregular formed non-vascular new formation of irregular size. It consists especially of nuclei, small and large, indifferent cells and giant cells, all imbedded in a reticular tissue. It constantly passes, after long duration, into so-called cheesy atrophy; often, also, into softening; and appears rarely as a local affection, but most often as a constitutional disease." The latter sentence is worthy our fullest attention. "Tubercular phthisis is most often a *constitutional* disease—fibrous and catarrhal phthisis are primarily generally of local origin." And not only is tuberculosis a constitutional disease, but there cannot be any doubt that it is a *hereditary* disease. Sometimes it overleaps one generation and appears again in the following one.

The diagnosis of tubercular phthisis is somewhat less difficult than that of the catarrhal form. It should be remembered, however, that occasionally both occur in the same subject. The following symptoms should lead us to suspect tubercular disease :

* Wagner, General Pathology, p. 444.

1. The *constitutional symptoms*—a deranged condition of the general nutrition—weakness of the lower extremities, paleness, swelling of the lymphatic glands, increased irritability, disturbed digestion, etc., cessation of the menstrual flow in females *precede the pulmonary symptoms.*

2. Frequent attacks of *epistaxis*, occurring long before any other sign, indicates any serious difficulty, mostly between the ages of fifteen and twenty.

3. A short, dry, obstinate cough, with either none or very scanty, tough, slimy sputum.

4. A slight elevation of the temperature towards evening.

5. *Pleuritic pains.*

6. *Obstinate hoarseness* and a tickling sensation in the larynx.

7. *Obstinate diarrhœa.*

8. The age of the patient in a large majority of cases *under* thirty.

9. *The family history.*

10. The sputa being mixed with *small quantities* of blood—copious hemorrhages occur rarely during the early stages of the disease.

DISCUSSION.

Dr. Westbrook thought the statement of Dr. K., in regard to the division of phthisical cases into three classes, could be controverted both on anatomical and on clinical grounds. Referred to Bayle's division into seven or eight classes, and said that this doctrine had prevailed before the time of Bayle and continued till the time of Laennec.

Laennec's doctrine of the unity of phthisis was accepted in France at the present day. Within a year Charcot and his followers had renewed the claim that all phthisis was tubercular. In Germany, since the appearance of Virchow's work, in 1851, another view had been held. The cause of the difficulty of deciding as to what was tubercule in the lung and what was not, lay in the peculiar structure of that organ.

The layers of connective tissue were too thin for the development of typical miliary tubercles.

Various opinions were held as to what constituted tuberculosis of the lungs, from the French doctrine that any mass caseous in the centre, with a peripheral zone of embryonic tissue, was a tubercle, to the view of Buhl, that the so-called tubercles were really a desquamative pneumonia. But it had not been demonstrated, as yet, that any such disease as chronic tuberculosis existed. Occasional tubercles were found in the mucous membrane near cavities, etc., but they were not general, and probably only due to local infection. Nor had he been able, clinically, to make the division recommended by Dr. K. He had tried often, but

unsuccessfully. He thought some such clinical division as had been spoken of by Dr. Peacock, in the St. Thomas' Hospital Reports for 1870, might be adopted. Dr. P. described a class of cases in which, after a prodromal stage, characterized by failure of primary assimilation with repeated hæmoptyses, amenorrhœa or a marked susceptibility of the mucous membranes, the physical signs rapidly developed themselves and destroyed the patient in a very few months. But Dr. P. reported no autopsies, and there was no evidence that these cases were tubercular. Some might have been caseous pneumonias, some suppurative peribronchitis.

THE TREATMENT OF THE DIARRHŒAS OF CHILDREN.

BY JEROME WALKER, M.D.

The general treatment of the diarrhœas of children *has* been, and is now, based mainly upon the belief in an inflammatory origin, and secondly upon a dyspeptic one. Alteratives, sedatives, opiates, emollients and astringents or laxatives with a secondary astringent effect are tried in rotation.

The character of the fœcal discharges are said to corroborate the inflammatory theory. Movements containing undigested material are alone referred to a dyspepsia (gastric or intestinal), while acid, mucous, slimy, green, watery and bloody discharges are considered evidences of different grades of inflammation.

But opposed to this theory are the facts:

1st. That the mucous membranes of the young child are very delicate and easily irritated; that the irritation may be local in its application, or it may be the result of poisonous gases acting through the nervous systems, or that of noxious germs absorbed into the blood.

2d. That, owing to the plentiful supply of blood-vessels in the mucous membranes, and to the sensitiveness of the nervous tissue, an irritation generally produces a hyper-secretion of mucous, an exudation of water from the blood, a slight extravasation of blood sufficient to color the secretions, or it gives rise to all combined, without any evidences of inflammation.

3d. That, owing to the rapid elimination in the young of waste and absorbed material by the kidneys and intestines, repeated irritation is necessary in a strong child before there may be any thickness or ulceration of the gastric or intestinal mucous membrane.

4th. That the mucous secretions of the young child—according to Dr. Jacobi—are normally more acid than those of an adult; and that acidity without inflammation is quite promptly produced by an irritant.

5th. That the greenish color of diarrhœa discharges, though occasionally due to biliary matter, is most often the result of acid secretions, as shown by Prof. Armor and others.

Post-mortem appearances are not always reliable. In certain apparently well-marked cases of so-called inflammatory diarrhœa, no signs of inflammation are found after death, and vice-versa. This has been the experience of the best clinical observers.

The results of inflammation, when found, consist of a thickening and ulceration of the mucous membrane, mainly in the ileum and about the ileo-cæcal valve, but these results are found, as a rule, in cases of chronic diarrhœa only. The ordinary appearances are a pale or red-swollen mucous membrane, with a large secretion of acid, mucous and discolored fœces, and nothing more.

The experience of the last five years has convinced me that the majority of the cases of acute or sub-acute diarrhœas ordinarily met with, are the results of direct irritation from indigestible food, or they follow a weakened nerve-tone, an inability of the sympathetic system of nerves to carry on its functions, or they depend upon both causes.

For an irritation to produce inflammation, or weakened overloaded blood-vessels to give rise to thickening and ulceration, time is necessary. How much time is needed? I do not know. Probably it differs in different individuals. Dr. J. Lewis Smith believes that if any diarrhœa continues a week it is inflammatory. The self-limitation of two or two and a half days claimed for cholera infantum by Dr. Emerson,* and the now well-ascertained facts that acute diarrhœas under favorable meteorological and sanitary conditions subside within forty-eight hours after their inception, and that diarrhœas not relieved within a week are difficult of cure—would point to the eighth day as the turning point, toward chronicity.

The causes of diarrhœa in children may be considered as irritative or asthenic.

Food, adulterated, poorly cooked, of poor quality, or of good quality if given in too large a quantity, too fast or too often—is an irritant. Improper feeding is a fruitful source of diarrhœa.

Dentition in weakly or nervous children, occurring at a time when the secretory and excretory organs are developing, is an irritation. So also is the eruption of several teeth at one time—in hot weather especially—

* "Some Points in the Pathology and Treatment of Cholera Infantum." *Bost. Med. and Surg. Jour.*, July 27th, 1878.

and also the pressure of developing teeth against the inner lip of the bony socket, which may not develop its shape pari-passu with the development of the growing teeth.* Undue pressure on the gums can be relieved by a prick of a needle, a slight or deep incision, as the case may be.

An atmospheric temperature of 60°, if continued for two or more days, night, as well as day, will often produce diarrhœal diseases. A temperature of 80° and above, whether combined with much dryness or moisture of the air, will, in a few hours, give rise to genuine cholera infantum characterized by "projectile" vomiting and purging and intense prostration.

High temperatures weaken the nervous systems, convert milk and "artificial" foods into irritants, by acidification and putrefaction. Cold and damp as well as heat and *moisture*, seem to act principally on the large intestine, producing a dysentery, or they convert a simple diarrhœa into a bloody discharge.

Bad air and bad water, whether through "germs" or gases," are capable of producing severe diarrhœas. A quite frequent result of malaria in this city, in children under two years of age, is a dyspeptic diarrhœa, due to weakened nerve power. Quinine promptly cures it.

Simon† contends that "the mucous membrane of the intestinal canal seems peculiarly to bear the stress of all accidental putridities which enter the blood," while Dr. George Johnson, in a series of interesting articles‡ claims that during hot weather diarrhœa *is* mainly produced by bacteria, infusoria and fungi. There are certainly enough opportunities for bacteria to develop in the midst of imperfect sewerage and drainage of large cities. In an institution under the care of Dr. Moreau Morris, an epidemic of cholera infantum was "stamped out" by attention to the plumbers' bad work.

Intestinal worms sometimes act as irritative causes of diarrhœa.

Nursing children are liable to diarrhœal disorders if the nurses are intemperate, overheated, are easily excited, have tuberculosis, or have not had proper food and air. I have met with a few cases where constipation in the nurse gave rise to diarrhœa in the child. The constipation of the one and the diarrhœa of the other patient were relieved by an aperient given to the nurse.

If the above arrangement of the causes of diarrhœa is correct, the indications for treatment of the majority of the cases of children's diarrhœa are, to prevent and relieve indigestion, and to maintain the health and

* Tomes' "Dental Surgery," p. 52.

† "Filth Diseases."

‡ London *Lancet*, Sept. and Oct., '78.

power of the nervous systems. These indications are met by hygienic measures, and a very moderate use of medicine. The sensitive stomach of the sick child is liable to revolt against large doses, strong odors and unpleasant tastes.

HYGIENIC TREATMENT.

A severe diarrhœa in a nursing child will sometimes be relieved by *seeing* to it that the nurse has sufficient and varied food; is free from worry and disease; is cleanly, especially as to her nipples; has an abundance of fresh air; is not overheated; that she has no dyspepsia or constipation.

As an artificial food for babies, cow's milk is still the best, provided it is pure, fresh, and can be easily digested. Whole milk, warm from the cow, milk with one-fifth to one-third cocoa added, or prepared according to Drs. Chapman, Dawson and Jacobi's formula, is better, as a rule, than any of the patented foods, though Jewell's, Ridge's, Neaves', Nestle's, Liebig's, or the Imperial Granum, will be occasionally useful, given with the milk. Beef juices, and not beef teas, are serviceable in diarrhœas. Ice is demanded where there is much thirst and large watery stools. Water may be given often, but in small quantities. Hypodermic and intra-venous injections of cows' and human milk will yet afford, in my belief, a valuable method of nourishing and keeping alive children who have, up to this time, been considered hopeless.

Air is an important adjunct in the treatment. Country air, unpolluted by factory gases or the germs from overcrowding of cities; salt air; the air obtained by the change of a sick child from one part of the city to another; the *being* for eight, ten, twelve, or fifteen hours even, in the *open* air, will assist in the relief of many so-called incurable cases, and of itself will cure some severe diarrhœas. Good air, and plenty of it, is a wonderful nerve-strengthening agent. While a free circulation of air is necessary by night as well as day, it is important to protect the body from damp by flannel under-clothing or bands; from currents of heated air by moistening the air of the room by suspending in it cloths dampened with water, or by the evaporation of moisture from a large piece of ice placed in the room. Straw ticks, wire-woven mattresses and "hammocks" are the best beds for summer use.

Bathing, properly used, is at times a necessary element of treatment. Baths are to be given rapidly to, and followed or accompanied by brisk, firm friction with the hands. They are to be given cold or hot, and made stimulating by mustard or salt, if desired; or they are ordinarily best given tepid, and followed by cold spongings. Prompt reaction is of course the test of their usefulness.

Great prostration and severe diarrhœas are best controlled, according

to my experience, by cold baths frequently repeated, according to the method explained by Dr. Holmes, of Ontario,* and by Dr. Comegys, of Cincinnati. The temperature of the body should be kept at 100° F. The dangers of cerebral congestion and irritation are lessened by cold spongings or cold compresses with friction, as advised by Dr. Winternitz.†

For the reduction of high temperatures, and the induction of a free action of the skin, kidneys and liver, inunction is valuable. No better treatment for chronic diarrhœa has been devised than the injection into the rectum of from half to one pint of water, at the ordinary temperature of the air, twice a day or after each movement. Such injections act on the sympathetic nerves, increasing their tone.

Sleep is undoubtedly a "sweet restorer" of lost nerve-power. A sleeping baby will have less movements than a wide-awake, restless one. When natural sleep is impossible—and it is rarely so in the open, fresh air—sleep-producing medicines may be necessary.

MEDICINAL TREATMENT.

In over one-half of the cases of diarrhœa that have come under my care during the last few years, pepsine has been the only medicine necessary; has been given after each movement, in 3 to 5 gr. doses, in milk, or in a mixture of glycerine. Dilute muriatic acid, cinnamon or wintergreen water, or combined with bi-carb. sodæ, 2 grs., if there was much acidity of the secretions. If an astringent is necessary it may be added to the pepsine mixture. Generally 5 or 10 drops of the fl. ext. of blackberry root, or of the geranium maculatum, is sufficient for a dose. These astringents have seemed to me to be preferable to Kino, Catechu, etc.

The medicinal mist. rhei et sodæ has been used in about one-fourth of the cases where an astringent and alkali were needed. Generally but a few doses were needed when pepsine could be used.

Malarial diarrhœa is relieved by the inunction of 3 grs. of quinine twice or thrice a day till 12 grs. are used.

The hypodermic injection of $\frac{1}{90}$ gr. of strychnia, p. r. n., in severe prostration, not otherwise amenable to treatment, is valuable.

One-drop doses of tr. or wine of ipecac., or a fraction of a drop of the fl. ext., or of ac. carbolic, given every hour, will ordinarily relieve the vomiting occurring with diarrhœas.

Aromatic spirits of ammonia seem to be a more reliable stimulant than alcohol.

Cod-liver oil, dialysed iron and the iodide of iron carefully given, *after*

* Trans. of International Med. Cong., 1876.

† London Pract., August, 1878.

meals, beginning treatment with *small* doses, are serviceable in chronic diarrhœa.

Calomel, opiates, sedatives or strong astringents were used in a small proportion of cases—less than one-eighth, and are seldom deemed necessary *if* the hygienic treatment can be carried out.

In closing this paper I may add that it was written as an outgrowth of a large experience in the treatment of diarrhœas—is a contribution of personal experience only, the result of what seems to me to be a better and more rational method of treatment than I was instructed in, in my college days. Certainly it has been attended in my hands by a larger proportion of recoveries than by old methods. The record of individual cases must be postponed to another time.

BROOKLYN ANATOMICAL AND SURGICAL CLUB.

Stated Meeting, October 21st, 1878.

The President, Dr. L. S. Pilcher, in the chair.

CARIES OF THE TARSUS—SYME'S AMPUTATION.

Dr. Fowler presented a case of Syme's amputation of the foot, done for caries of the tarsus. The origin of the disease was referred to a sprain sustained in February, 1878. The patient, Dr. R. T. D., aged 23 years, of strumous habit, came under treatment in the May following. Despite every effort, the case went from bad to worse. Amputation was done August 14th, 1878. The patient bore the anæsthetic (ether) badly. He was with difficulty resuscitated. Nitrite of Amyl was used with apparent advantage in this crisis. The operation was finished without any anæsthetic. The internal malleolus was found also diseased; both malleoli were removed. The stump was dressed antiseptically. Union by first intention was secured throughout, except at point where ligature was brought out. The sinus remained open after separation of the ligature, and recently has given exit to a small spicula of bone. The general condition of the patient has improved much since the operation.

CENTRAL NECROSIS OF OS CALCIS—EXCISION.

Dr. Fowler also presented a specimen of central necrosis of the os calcis, with the following history:

Mr. R. C., aged 35 years, thirteen years ago suffered from multiple abscesses in different parts of the body, one of which opened on the inner side of ankle, behind malleolus. From this a sinus resulted, which continued to discharge varying quantities of pus up to present time.

He came under the care of Dr. F. last spring, at which time dead bone was felt at bottom of sinus. An exploratory operation was performed, and a portion of diseased bone gouged away from the os calcis. But little benefit resulted from this operation. September 25th, 1878, excision of the entire os calcis was done. The operation was accomplished with facility by a horse-shoe incision, and sole flap. The wound was dressed antiseptically. No elevation of temperature above the normal occurred. Union by first intention took place along whole length of the extensive incisions, except at point of drainage. Filling in of the large cavity left by the removal of the bone is going on very satisfactorily.

The specimen presented upon section a cavity in its interior, containing a loose sequestrum about the size of a hazel-nut. This cavity communicated externally by means of an opening just behind the articulating surface for the astragalus.

Dr. Pilcher described a similar central sequestrum which he had found in the neck of the femur in a case of hip-joint disease. He called attention to the identity of the processes resulting in the formation of such *bone-sloughs* with that presented in acute phlegmons of the soft parts with connective tissue sloughs.

EPITHELIOMA OF LIP.

Dr. Fowler also presented a specimen of epithelioma of the lower lip, removed October 14th, 1878, from a gentleman aged 63 years. Its origin was traceable to a cut received on the edge of the lip two years previously, which never completely healed. Two months previous to operation, a scab having gathered upon it, it was shown to an irregular physician, who cauterized it, and gave a paste to use upon it. From this time it grew rapidly and became more painful, and at the time of removal had attained the size of a walnut. In its removal care was taken to cut wide of the diseased part. Union by first intention was secured.

In reply to inquiries of the President, Dr. Fowler stated that of four patients from whom he had removed epitheliomata of the lower lip during the past few years, in case Number 1, a male, æt. 35 years, the growth returned in six months, when it was again removed, only to recur again at end of four months, when it was removed for the third time. Patient was then lost sight of. In case Number 2, a male, æt. 44 years, half of the lower lip and a portion of the cheek was removed. The disease returned in one year, and terminated fatally at end of eighteen months. In case Number 3, a male, æt. 60 years, no return of the growth had occurred at end of two and a half years. In case Number 4 the growth returned at once, causing death three months afterwards.

Dr. J. N. Freeman stated that in three instances in which he had operated there had been no recurrence as long as he had been able to keep them under observation, although the periods were quite brief, having been respectively six months, one year and two years.

Dr. Russell recalled four cases of epithelioma of the lower lip which had been removed by excision. In two of these the growth recurred within two years thereafter; one was lost sight of, and the fourth remained permanently cured.

Dr. Sizer related three cases; in the first, A. B., æt. 50 years, three years had elapsed after excision without recurrence. In the second, C. D., æt. 63 years, two-thirds of the lower lip were removed; the growth had recurred at end of five months; a second excision was followed by recurrence in six months; excised the third time, it again recurred, and caused death by general infection of the cervical glands and asthenia. In the third case, E. F., æt. 40 years, the growth involved both lips and the left inter-labial commissure; a plastic operation was done; recurrence after eight months; further interference was then declined, and the patient passed out of observation.

Dr. Wieber related two cases, old men, in both which the disease recurred repeatedly after removal, and ultimately terminated fatally.

Dr. G. W. Baker had had experience in two cases, in neither of which, after excision, was there any recurrence. One had died of other disease more than two years after the operation, and the other after five years was still free from the disease.

Dr. Bunker reported the case of a gentleman from whom, in 1849, when he was forty-two years of age, an epithelioma of the lower lip was removed by caustics. At the present date, nearly thirty years later, he is still living, and there has been no recurrence.

Dr. Elmendorf reported the case of a man aged seventy-two years, who, after removal of an epithelioma from his lower hip, survived twelve years without its recurrence, and then died of other disease.

Dr. Rockwell reported two cases in which, after removal, the growths recurred, one at the end of two years, the other within a few months. They were both re-excised; their subsequent history was unknown. He reported also a case of epithelioma of the face in which, four years having elapsed since its removal, there was no recurrence.

Dr. Pilcher stated that of four patients upon whom he had operated for removal of epitheliomata of the lower lip during the past five years, of but one was the present condition known to him. In this one, a man aged fifty years, at the expiration of a year the lip still remained free from disease, but a rapidly growing tumor, involving the body and angle of the lower jaw, upon the same side of the face as that on which the labial

growth had occurred, was developing. He regarded the case as one of osteo-sarcoma of the jaw, and thought the case of unusual interest, as departing widely from the usual clinical history of epithelioma of the lip. Dr. Pilcher then summarized the statements that had been made, remarking that they were of special interest, from the light which they shed upon the question of prognosis. The impression is very general that these epithelial growths, if early removed, before there is any glandular infection, and if the incision is carried wide of the disease through sound tissue, are not likely to recur; but it appears that of the twenty cases which have been now cited, the histories of which have been sufficiently complete—six being excluded as incomplete—twelve suffered recurrence after removal at intervals varying from a few days to two years, and but eight remained well for a period greater than two years. In some of these yet, as the experience of others has shown, after a long period of exemption, the disease may return. These cases warrant the opinion that epitheliomata of the lower lip, though less malignant than true cancer, is nevertheless to be classed as malignant in character, and, even in the most favorable circumstances, as likely to recur. The number of permanent recoveries after its removal is, however, sufficiently great to always encourage operative interference.

G. R. Fowler, *Secretary.*

BROOKLYN PATHOLOGICAL SOCIETY.

Regular Meeting, Oct. 24th, 1878.

The President, Dr. F. W. Rockwell, in the chair.

The Microscopical Committee reported that the tumor of the mammary gland presented by Dr. Paine was a simple hypertrophy of the gland.

The tumors of the vulva presented by Dr. P. L. Schenck were fibrous tumors.

The testicle presented by Dr. McPharlin had undergone fibro-cystic degeneration.

ANEURISM OF AORTA.

Dr. McPharlin, of the City Hospital, presented the heart and aorta of a man dead of thoracic aneurism.

History.—W. J. H., æt. 36, U. S., sailor. Pain between the shoulders for six months, gradually increasing in severity. Three months ago

he began to cough, and to be troubled with dyspnœa. Anorexia. Admitted Sept. 17th to Dr. Ormiston's ward. Symptoms: Severe lancinating pains between the shoulders, shooting forward and along the vertebral column. Rapid breathing, and dry, hacking cough. Emaciated. Signs: Trachea displaced to the right. Diminished resonance on both sides, most marked on the left. Diminished respiratory murmur on the left. Sonorous and mucous râles on both sides, particularly at the apices. Heart's action rapid. A slight blowing murmur in the region of the pulmonary orifice, heard with difficulty. On the 10th of October, in the morning, the respiration suddenly became more labored, and he was cyanotic. The pulse was rapid, full and strong. After vomiting he was relieved. At 10 P. M. he again became cyanotic, though the pulse was full and strong. Laryngoscopic examination proved the absence of obstruction in the larynx. There was now a systolic bruit, with its maximum of intensity about three inches below the clavicle, and three inches to the left of the median line. Sphygmograms of the right and left radial and femoral arteries differed (difference not stated). The expiration gradually became longer and obstructed during the cardiac systole.

Died Oct. 11th, 3 A. M. Autopsy: *Lungs* normal, *except a slight consolidation two inches in extent at the anterior portion of the left upper lobe*, and a similar patch in the posterior portion of the right lower lobe. *Heart* normal. An *aneurismal sac* on the posterior aspect of the arch of the aorta, at the junction of the transverse and descending parts. Several irregular ante-mortem clots in the sac and aorta. Aneurism not ruptured, though the wall was extremely thin above and behind.

HEPATIC ABSCESSES.

Exhibited by Dr. Wallace, of St. Peter's Hospital. History: An Irish carman had been troubled with diarrhœa for a month. It ceased a few days before his admission. The stools were natural in color but quite thin. Three weeks ago he had injured his right side, and had been suffering from pain ever since. Symptoms: Severe pain in the right side; a slight cough, accompanied by severe pain; constipation. Signs: A friction sound near the base of the right lung. Temp. in the evening $101\frac{3}{4}^{\circ}$ F.

Oct. 9th: Bowels moved by a cathartic. Vomited twice, after taking some cinchonidia.

Oct. 13th: The bowels moving four or five times a day. Is compelled to lie on the right side. Growing weak.

Oct. 17th: An œdema of the part, which appeared on the 15th, has decreased under the use of jaborandi. Slight swelling of abdomen. No albuminuria.

Oct. 19th: Extremities cold. Clammy perspiration. Tenderness over the whole abdomen. Palpation over abdomen.

23d: Died from exhaustion at 2 P. M. Autopsy on the following day. *Thoracic viscera* normal, except a slight pleurisy at the base of the right lung. Abdomen: One pint of fluid in the cavity. The intestines glued together with recent lymph. Slight collections of pus in spaces between the coils. A perforation of the transverse colon. The *cæcum* was filled with pus. There was a large abscess between the liver and diaphragm, and two or three large and numerous small ones in the substance of the liver. The *kidneys* were normal.

Dr. Segur: The pus in the large intestine would point to ulceration of its mucous membrane as the cause of the hepatic abscesses.

Dr. Gray referred to the frequency of hepatic abscesses in some localities, particularly Mexico.

Dr. Hammond had recently read a paper on the subject before the N. Y. Neurological Society, in which he spoke of certain cerebral symptoms which were due to the presence of these abscesses in the liver, and thought those symptoms were of value in diagnosing hepatic abscess.

In reply to questions, Dr. Wallace stated that no ulcers of the large intestine had been observed at the autopsy; that there was great tenderness over the liver all the time, and over the entire abdomen during the last three days; and that it was not ascertained whether the perforation of the transverse colon communicated with a hepatic abscess, or with the peritoneal cavity.

SARCOMA OF THE FACE.

Dr. Mathewson exhibited a small tumor which he had removed from the side of the nose near the inner canthus. The patient was a delicate man about fifty years of age. Four or five years ago he had removed what appeared to be an ulcerating epithelioma near the inner canthus. The microscope, however, showed it to be composed of cells of the connective tissue order—sarcomatous.

There was apparently no disposition to return till a few months ago, when this hard nodule, starting from a line of cicatrix, appeared, and has been steadily growing. The microscope shows masses of elongated cells, probably sarcomatous.

Dr. Rockwell spoke of the tendency of epithelial growths to recur. At a recent meeting of a society of which he was a member, most of the members present had observed this recurrence. He thought the statement of authors as to the slight malignancy of these tumors was too strong.

Several of the members present had seen the repeated recurrence of epitheliomata, in some instances leading to a fatal termination.

Dr. Rushmore: Epithelioma is about as malignant as true carcinoma, unless the tumor is small, and healthy tissue can be removed with it.

Dr. Segur: Dr. Fordyce Barker (speaking in connection with his views as to the use of arsenic) said that epitheliomata in the earliest periods of their development are simple growths.

Dr. Bunker showed sections of a small fibroid tumor removed by Prof. J. S. Wight, in which there was an appearance of commencing epithelial development.

Dr. Gray: It would be interesting, in these cases, to know if the primary tumors were really simple epitheliomata, or if they were not associated with true carcinoma.

Dr. Rockwell had seen two cases where it was true epithelioma. Referred to, in which, about one year ago, Dr. Pilcher removed an epithelioma from the lower lip. The linear cicatrix was still intact, but there was extensive disease of the inferior maxillary bone.

Dr. Mathewson thought it depended on whether the operation were early and complete enough to forestall infection of the surrounding tissues and lymphatics. Remembered a case in which he had, five years ago, removed an extensive true epithelioma of the lid. It had shown no tendency to recur. In another case several years had elapsed with no return. He also knew of several cases in which several years had elapsed since the removal of gliomas, and there had been no return. He thought carcinomata might also fail to recur if removed very early.

Dr. Westbrook, in reply to Dr. Gray: Cornil and Ranvier had demonstrated that, in carcinomata, the alveolar cavities communicated directly with the lymphatics. Such a relation was not found in carcinomata. In these the walls of the vessels were poorly developed. In epithelioma the cells were so large that they could not readily be transported through the lymph or blood vessels. These differences in the anatomy of the tumors served, to some extent, to explain the differences in their clinical histories.

THE DANGER IN A WOMAN WITH MITRAL STENOSIS BECOMING PREGNANT.

Dr. Westbrook presented a heart in which the mitral orifice was contracted so as only to admit the point of the index finger. The patient was a woman who had been attended in her fatal illness by Dr. E. B. Jones.

History.—About 30 years of age, and seven months pregnant. Had no history of rheumatism. Had been very well, with the exception of having had some dyspnœa on exertion for several years. The husband, a non-practicing physician, had suspected cardiac disease, but had never examined her heart. She awoke in the night complaining of great

dyspnœa, with cough and the expectoration of large quantities of sanguinolent, frothy mucus. The chest was filled with moist râles. She died of apnœa in a few hours.

Autopsy.—Body well nourished. Head not examined. *Thorax:* Pleuræ non-adherent. Both contained a few ounces of clear serum. *Lungs*, heavy, congested and œdematous, except at apices. No infarctions. *Bronchi* filled with frothy serum. *Pericardium*, an increased amount of clear serum. *Heart* of about the normal size. The mitral valve in the condition mentioned above. *Abdomen:* The viscera occupied the position usual in an advanced stage of pregnancy. Dr. Westbrook regarded the pulmonary œdema as due to the combined obstruction offered by the contracted mitral orifice and the gravid uterus. The pulmonary congestion might have been increased by a cold which, under ordinary circumstances, would simply have produced some congestion of the bronchial mucous membrane.

Regular Meeting, November 14th, 1878.

The President in the chair.

CAPILLARY BRONCHITIS.

Dr. Pilcher presented the lungs from a child in whom, after pertussis had lasted two weeks, capillary bronchitis had developed.

History.—Female child, æt. five years. As the bronchitis developed the paroxysms of whooping-cough were greatly diminished. During the three days preceding death, cyanosis was constant and marked. Death occurred on the eighth day of the bronchitis.

Autopsy.—The mucous membrane of the trachea and bronchi was injected throughout, increasing in intensity toward the periphery. The bronchioles were filled with secretion, their blood vessels injected, and the submucous tissue infiltrated with leucocytes.

There was extensive collapse of the lung. Numerous pyramidal regions, small in extent, bases outward, edges well defined, appeared to be spots of inflammatory consolidation. Dr. N. B. Sizer, after microscopic examination, reports these to be *lobular pneumonias.*

The pleural surface, at points, covered with recent lymph.

The *bronchial glands* were apparently normal.

EXTENSIVE DESTRUCTION OF BONE.

Dr. E. F. Mordough presented a specimen with the following history: An Irish laborer, æt. 52, was admitted to the Kings County Hospital in December, 1877. When 16 years of age he received a severe blow upon the crest of the tibia while playing shinny. A piece of bone two inches and a half long was discharged two weeks afterwards. A few

smaller pieces followed, and the wound healed in one year. On two other occasions, after the receipt of direct violence, the wound opened, but soon closed again. In July, 1876, a block of stone struck the site of the old injury. There was profuse hemorrhage, followed by continuous suppuration, though he continued to work for eight or ten months. On admission he was weak and anæmic, though not emaciated. There was an ulcer eleven or twelve inches long, with unhealthy granulations, discharging profusely an ichorous, fetid pus. Marked depressions over the shaft of the tibia. No apparent disease of the fibula.

Three months afterward, while unexpectedly bearing a little more weight than usual on the limb, the fibula, which was the sole support, gave way. After this the foot and ankle could be abducted over one and a half inches, and adducted to the same extent. On the 26th September, 1878, Dr. P. L. Schenck, for whom the specimen was presented, disarticulated at the knee-joint, making anterior and posterior flaps, and removing the patella. The muscles of the leg were atrophied and the connective tissue was œdematous. The tibia was much softened and altered, while the general outline was, to a great extent, maintained by a fibro-cartilaginous material. The purulent fluid filling depressions in the bone contained fragments of bone and of calcareous matter. The bones not involved in the carious disease were so soft as to be easily cut with a knife. The ligamentous tissue of the foot was increased in quantity. After being cleaned and mounted by Dr. De La Vergne, the bones are seen to be united in several places by osseous tissue. After maceration only about one-fourth of the tibia remained. The head was much increased in size. There were numerous osteophytes on its surface.

DRYSDALE'S CORPUSCLE.

Dr. Jno. Byrne presented a hob-nailed liver. The history was as follows: A woman, æt. 45 years, was admitted to St. Mary's Hospital on account of a supposed abdominal tumor.

The abdomen presented the external appearances of cystic development. It was very prominent. Position did not influence its shape. A diagnosis of ovarian cyst had been made by a physician. I examined her carefully, and, although she stated that her first symptom was a swelling of the feet, I diagnosed an ovarian cyst. A small amount of fluid was drawn off for examination. The microscopist reported that it contained Drysdale's corpuscles. Dr. T. G. Thomas saw the patient in consultation and confirmed the diagnosis. He advised an early operation. I made an exploratory incision two inches long. The peritoneum was punctured, and a clear, straw-colored fluid ran out. The opening was enlarged to admit two fingers, when the fluid all ran out, and the uterus

and ovaries were found to be entirely healthy. The finger was passed upward toward the liver, and a smooth body touched, which was supposed to be that organ.

Dr. Thomas confirmed this observation, but thought that, though it felt natural, there must be something wrong with it. The wound was closed and healed. Dr. Thomas took away some of the fluid and reported that he found no Drysdale's corpuscles. The patient died from exhaustion some time afterward, and we found the rough, well-advanced hob-nailed liver.

Dr. Hesse asked if corpuscles similar to that of Drysdale were to be found in ascitic fluid?

Dr. Rockwell: Paget's inflammatory, or Glüge's corpuscle, resembles it, but differs in its reaction with acetic acid and ether.

Dr. Bunker said: Dr. Byrne calls for light on the value of Drysdale's corpuscles in the diagnosis of ovarian pregnancy. I think that cases like that presented to-night are well calculated to throw a very clear and much needed light on the subject. In this instance we are informed that, prior to the operation, the fluid contents of the tumor were submitted to thorough microscopic examination, and Drysdale's corpuscles were found. I do not know who made these examinations, but the character of Dr. Byrne is sufficient guaranty that the work was entrusted to proper hands. It seems that I also examined the fluid evacuated by the operation; and my investigation was certainly made without bias, for I never heard of this case until to-night, and I had no means of knowing the source or history of the specimen sent me. It was brought in a bottle by a little boy, with a note requesting me to "ascertain if it contained the so-called Drysdale's corpuscles." I examined it in various ways on two successive days, and replied by note: "Drysdale, undoubtedly." I regret that I have not here my notes of the examination, but I remember distinctly that—

I found a considerable number of red and white blood corpuscles;

I found a few Glüge's inflammation corpuscles;

I found on every slide a few octahedral crystals, resembling in size and appearance the oxalate of lime crystals so common in urine;

I found no epithelium;

I found in abundance "Drysdale's corpuscles;" that is rounded bodies, ranging from the size of the Glüge corpuscle to that of a leucocyte, and studded with 6—12 gleaming points, of high refracting power; and occasionally I found bodies presenting a radiate appearance, as described by Spencer Wells.

I found, on testing with reagents, that Magenta stained the leucocytes and not the "Drysdale's corpuscles;" acetic acid developed nuclei in the

leucocytes, but did not affect the "Drysdale's corpuscles;" ether destroyed the leucocytes, but did not affect the "Drysdale's corpuscles." Now it is quite possible that my observations may be vitiated by some error or fallacy in my work; but if you accept my report on the microscopic phenomena, you must agree that I found the so-called "Drysdale's corpuscles."

A word as to the clinical significance of these bodies. I have never believed that they possessed the value assigned to them by some writers. Ohlshausen, in his recent work, remarks that the microscope may afford valuable aid in the diagnosis of ovarian cysts, and lays great stress upon the proof afforded by the presence of characteristic epithelium in the fluid. He then specifies other phenomena of less and less importance, and mentions at the bottom of his list "Drysdale's corpuscle." He is probably right.

Dr. Garrigues knew of a case treated by Dr. Thomas, in which several microscopists examined the fluid, and said Drysdale's corpuscles were present. Drysdale, however, declared that they were not his corpuscles. The tumor proved to be a fibro-cyst of the uterus. Thought there must be some peculiarity about the corpuscle which only Drysdale could recognize.

HYDATIDIFORM MOLE.

Dr. Hesse presented a beautiful specimen of this morbid growth. (The account of this case will appear next month.)

MICROSCOPICAL COMMITTEE.

The tumor presented by Dr. Mathewson at the last meeting was a spindle-cell sarcoma.

☞ The Secretary requests members who present specimens to present therewith a *written* account of the case, and of the pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides. Address, Curator of Pathological Society, care of Dr. B. F. Westbrook, Secretary, No. 279 Clinton Street, Brooklyn.

BENJ. F. WESTBROOK, *Secretary*.

——TRANSACTIONS OF THE MEDICAL SOCIETY OF NEW JERSEY, 1878.—Through the courtesy of DR. STEPHEN WICKES, of Orange, we are in receipt of the Transactions of the 112th meeting of this venerable Society—a portly volume of nearly 400 pages. It is a record of careful observation and intelligent therapeutics, collected from all parts of the State.

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——YELLOW FEVER FUND.—The following correspondence is submitted:

HOWARD ASSOCIATION,

16 Madison Street, Memphis, Tenn., Nov. 13, 1878.

MY DEAR DOCTOR: My time has been so completely occupied that I have neglected to reply to yours of 3d inst. I know nothing of the necessities of families of physicians, except of those who died under my immediate observation. Thirteen of our resident physicians died during the epidemic, and several left their families penniless. Any amount that you may see proper to send here will be gladly received and properly distributed.

I would suggest Dr. Heber Jones, Sec. Shelby County Medical Society (of which I am President), as a proper person to attend to its distribution.

Yours truly, R. W. MITCHELL.

DR. ALEX. HUTCHINS, *Brooklyn.*

Brooklyn, New York, November 20, 1878.

HEBER JONES, M.D.,

Secy. Shelby Co. Med. Society, Memphis, Tennessee.

MY DEAR DOCTOR: I herewith enclose certificate of deposit to your order for $547, for purposes hereinafter stated. The money is the resultant contribution of members of the Kings Co. Medical Society, resident in this city, for the relief of the families of medical men, victims to the late epidemic of yellow fever. I herewith send copies of "THE PROCEEDINGS" of this Society, which will explain to you (see pp. 248 and 283) the origin and purposes of this contribution. Accompanying this, also, is a resolution of the Council of this Society, defining our wishes as to its distribution.

We have had some correspondence with Dr. R.W. Mitchell relating to this matter, and his final suggestion was that you, as Secretary of the Shelby Co. Med. Society, would be the proper person to attend to the distribution of this fund. We therefore beg you to accept this trust. We desire that the money shall be appropriated to relieve, so far as may be, the most urgent needs of the wives and children of those physicians of your city whose deaths, in the late epidemic, have left them the most straitened in material resources, and in most need of immediate help.

The Council has seen fit to make your President, Dr. Mitchell, advisory to your action, believing that it may, possibly, prove a relief to you, to have in certain cases a specified adviser in this distribution.

Be good enough to acknowledge the receipt of this communication. It will be gratifying to us if you will, at a later date, inform us of such details of the distribution of this fund as, in your judgment, may be proper to submit, and which may be of interest to us.

We pray you to accept the assurance of our intense sympathy; and believe me to be very sincerely yours, ALEX. HUTCHINS,

Pres. Med. Soc. Co. of Kings, Brooklyn, New York.

MINUTE OF THE COUNCIL OF THE MED. SOC. OF THE COUNTY OF KINGS, NOV. 17, 1878.

Resolved, That the Yellow Fever Funds, now amounting to $547, be sent to the Secretary of the Shelby County Medical Society, of Tennessee, to be distributed to the families of those physicians who have died in Memphis in the recent epidemic, and left them in immediate pecuniary need.

Resolved, That the Secretary of said Society be requested to ask the advice and co-operation of the President of the same, in each case of disbursement, until the fund is exhausted.

——NEW REMEDY.—It seems as though Australia is to give us another valuable medicine besides that derived from the Eucalyptus tree. The leaves of the so-called cork wood *(Duboisia myoporoides)* yield a powerful extract similar in its action to atropine and belladonna, but more speedy and energetic. In New South Wales and Queensland, where these properties have recently been developed by experimentation upon animals, the new drug is already considerably used in place of atropine.

——A MAN WHO BURST.—In the *Vierteljahrsschrift für Gericht. Med.*, July, Dr. Bremus gives account of a man who literally burst, split his diaphragm in two and died, from four plates of potato soup, "numerous" cups of tea and milk, followed by a large dose of bicarbonate of soda to aid digestion! His stomach swelled enormously, and tore the diaphragm on the right side, causing immediate death. The case is probably unique.—*Phila. Med. and Surg. Reporter.*

——VACCINATION will not prove successful in a patient who, at the time, is under the influence of arsenic, says an English health-officer, Dr. E. J. Syson, quoted by Dr. E. M. Hunt, *Medical Record*, March 9th. "The Antecedent Treatment of those Exposed to Zymotic Diseases." He suggests that other remedial agents, especially those classified as azymotics, will also cause the failure of a properly performed vaccination. This hint opens the door to a wide field of investigation.

——POLLEN IN HAY FEVER.—Dr. Woodward has put the pollen theory of Dr. Marsh to the crucial test of self-experimentation, and unequivocally decides against it. His very interesting letter may be found on p. 360, *Med. and Surg. Report.*, Oct. 26, 1878.

——Medical Journal Reading Room and Library of the Medical Society of the County of Kings.—The Council begs to remind the members of the Society that the subscriptions made one year ago for the establishment of a Journal and Library Room have expired, and that a renewal of these subscriptions will be called for by circular at once. The constantly increasing use of the files of journals has been the test of the wisdom of the Council in asking the original co-operation of the Society, and has amply compensated the liberality of the contributors. It is hoped that a prompt reply will be made to the circular, so that the Council may be enabled to arrange for the coming year. Appended is the Treasurer's statement of the condition of the Fund:

READING-ROOM RECEIPTS AND EXPENDITURES.

Receipts.

66 subscriptions at $5	$330 00
10 " at $10	100 00
1 " at $9	9 00
Appropriation by Society	132 44
Total	$571 44

Expenditures.

Rent of room to date—11 months	$303 37
" " for November and December	53 34
Fitting and binding	125 92
Journals	50 87
Sundries	29 35
Balance	8 59
Total	$571 44

November 19th, 1878.

8 subscriptions at $5 not paid.
1 subscription at $10 not paid.

——Intestinal Hemorrhage.—An ounce or two of oil of turpentine in half or one pint of tepid menstruum arrests, like a charm, intestinal hemorrhage—even when patients seem moribund.—Dr. Hutton.

——Autopsy Refused is a termination to recorded cases, in a great number of American journals. It is becoming a more and more frequent evil, and one which is likely to seriously interfere with the proper prosecution of the medical calling. Is the *morale* and discipline of the profession on the wane?

——In compliance with a custom inaugurated five years ago, the annual visitation of the President of the Medical Society of the State of New York to this Society was made on the 19th ult. In response to his introduction, Dr. Roosa congratulated the Medical Society of the County of Kings upon its recognized loyalty to the State Society, urged it to a continuance of good works, pressed the needs of some legislation that would enable physicians charged with malpractice to be tried by their peers, and not by the ordinary compend of ignorance called a coroner's jury, and in a few choice sentences set forth the expectation of that time when New York and Brooklyn should be one city of common interest, and the medical men be, by Rapid Transit and the Brooklyn Bridge, in free and frequent intercourse one with the other.

The Society had, at this meeting, the pleasure of receiving Dr. Hendrickson, of Jamaica, delegate to this Society from the Medical Society of Queens. After acknowledging the courtesy of his reception, he related the case of Dr. Auerbach, of Rockaway, whose post-mortem revealed death from rupture of the rectus abdominis muscle, caused by a fall, which rupture produced hemorrhage and peritonitis.

——The Surgical Anatomy of the Bladder and Rectum is set forth in an entirely new light by an admirably illustrated essay by Dr. J. G. Garson, a pupil of Braune, of Leipsig, in the *Edinburgh Medical Journal*, Oct. The frozen cadavera of males were the material of this study. A future one concerning the female subject is promised by the author.

——National Board of Health.—At the Nov. meeting this Society voted to endorse the memorial to Congress to organize a National Board of Health.

——Harvey and his Discovery. By J. M. Da Costa, M.D., Philadelphia, 1878. An address before the Jefferson Medical College, issued in handsome type and paper by the Lippincotts. It is a graceful tercentenary tribute to England's greatest physiologist. "Harvey's life is the most typical one of an illustrious physician. As he was, I think, beyond doubt the greatest of the great physicians of comparatively modern times, perhaps of any time, he illustrates in his person the finest traits of the intellect and heart of the profession: patient of search, keen of thought, ingenious of surmise, bold of inference, consummate in reasoning and in the art of clear expression, we have in his mind the best example of the scientific mind."

——Dr Inman's Tripod.—"Keep the stomach for food, the rectum for physic, the skin for oil."

——Cornaro Again.—It will astonish most men to find out just how little food, compared with their usual habits, is actually necessary to sustain life at its maximum. A Dr. T. L. Nichols, of Malvern, England, has recently been lecturing in London, and giving the results of experiments upon himself, with a view to determining this important question. During the first week he lived on bread (and its equivalents, wheatmeal, oatmeal, rice, etc.), milk, fruit and vegetables (he ate no flesh meat). His habits of life were regular, his excess being that of overwork. The total weight of ingesta (solid) for the first week was 3 lbs. 9½ oz., being a daily average of 8¾ oz. The second week he ate "Food of Health," milk and fruit—total weight, 4 lbs. 4½ oz., a daily average of 9¾ oz. He reports at the end of the second week that nothing could be better physiologically than the effect of the diet upon him. His digestion was perfect, and the actions of all the various organs was as good as it was possible to desire. During the third week he discontinued milk as unnecessary, and took of solid food 3 lbs. 2 oz., an average of 7⅐ oz. per day. The fourth week, his food being similar, weighed 3 lbs. 6 oz., a daily average of 8 oz. He now added soups, puddings, eggs, etc., and the fifth week his food weighed 3 lbs. 12½ oz. For the sixth week it weighed 3 lbs. 15 oz., or 9 oz. per day. He had taken this diet without stimulants, and had experienced constant increase of health and strength and power to work, and his weight had remained at about 170 lbs. He concluded his lecture with the following sentiment: "The diet question is at the root of disease. Pure blood can only be made of pure food in proper quantity. Proper attention to diet would reduce the rate of infant mortality and remove many diseases. If the drink of a nation were pure and free from stimulating qualities, and the food were also pure, the result would be pure health." Truly the amount of food wasted and of energy in the efforts of the system to throw off this waste is something prodigious.—*The Sanitary Journal.*

——Q. E. D.—Dr. J. Milner Fothergill, of London, writes to the *Phila. Med. Times* this remarkable prediction: "The advance of medicine in the direction of therapeutics lies now mainly in American hands—or, perhaps, rather, heads." It has generally been alleged by foreign observers and critics, that, while American surgery and gynecology occupy a proud position, the practice of medicine in this country falls far behind that of the Transatlantic professions. So that the above is somewhat encouraging, and possibly may come true.

——The Eucalyptus in Malarial Disorders.—When quinine proves ineffectual, the eucalyptus, in ten-drop doses of the tincture, has proved successful in numerous cases.

——Committee on Hygiene.—At a meeting of the Committee, held the 9th inst., its proper work was canvassed. Hitherto the Committee has done very little work, and has only reported to the Society once a year. Practically, it has done scarcely anything or nothing toward gathering the harvest of valuable and interesting information which the observation and study of the hygienic condition of over half a million of people affords. Though it is now late in the year, the Committee resolved to make a beginning of work. It is proposed that the Committee hold monthly meetings for the purpose above indicated. A report or abstract will be prepared and presented to the Society, for publication in the "Proceedings." This statement of the plan of the Committee is made for the purpose of asking every member of the Society to cooperate in its work. Single facts and cases come under the observation or occur in the practice of the physician which he deems of importance, but does not now have the opportunity to present. He talks them over with the few he may meet, but does not write them out. The plan proposed by the Committee will bring together the observations of all the members of the Society, and the gleanings of the field will increase the common store. It is earnestly requested that every fact or item of sanitary interest, or regarding prevailing diseases, should be communicated to the Secretary of the Committee on Hygiene, 398 Fulton St. The next meeting of the Committee will be held Dec. 6th.

Francis H. Stuart, M.D., *Chairman Com. on Hygiene.*

——The Pure Rubber Bandage, introduced by Dr. Martin, of Boston Highlands, has proved to be a means of vast relief to many cases of chronic ulcer of the leg and eczema of leg. Dr. M. has written, for the *British Med. Journal*, Oct. 26, a detailed account of his plan, and the success achieved by it within the year past. He is evidently quite willing to take a contract to empty all the ulcer wards of all the hospitals of the land. Dr. Bulkley contributes to the *Archives of Dermatology* an article setting forth the value of the bandage in the treatment of eczema.

——The very latest on Jaborandi.—Jaborandi is to be classed as an emetic. While it may exert a sialogogue and sudorific action without emesis, just so may ipecac. They cause dilatation of and retardation of flow through the surface capillaries by paralysis of the sympathetic fibres distributed to them. Hence we have copious sweating and secretions from mucous surfaces." Vide *Amer. Jour. Med. Sci.*, Oct., 1878, p. 378.

Dr. Rai Rara Narain Dass Bahadoor, Calcutta, has performed lateral lithotomy 248 times, and only 17, or 1 in 14½, died. Cheselden lost 20 cases out of 213; Liston, 16 out of 115; and Guersant, 9 out of 60.

——Dr. Jerome H. Kidder, U. S. N., was married in Constantinople, September 18th, to Miss Mary Maynard, the daughter of our Minister to Turkey, Hon. Horace Maynard.

——Ergot in Enlarged Prostate.—Dr. Satterthwaite recommends (*N. Y. Med. Jl.*) drachm-doses of the fluid extract of ergot, three times a day, where, for reasons of poverty, etc., it is impracticable to advise the use of the soft catheter of Nélaton. The deep injection of ergot into the prostate itself has lately been practiced in Germany, with the result of reducing the hypertrophy of the gland.

——The British Medical Association has a membership of 7,500, and an annual income of $50,000. It has for its organ that admirably edited and model weekly, *The British Medical Journal.* It has its scientific funds, from which it can draw in order to aid investigations into questions of pressing interest.

——Glycerine.—Mikulicz has experimented with this substance and liquid food. It will delay decomposition from 24 to 48 hours, if added to the extent of 2 to 10 per cent., at "ordinary temperature of rooms"; 12 to 15 per cent. causes longer delay, and septic organisms are only incompletely developed; 20 per cent. prevents the development of bacteria, and therewith the usual decomposition; 50 to 95 per cent. destroys existing cocco-bacteria, speedily if the temperature is high, slowly if it is low. . . . Septic infection is regarded as a chemical poison which is produced by living bacteria, modifying and devitalizing serous exudation in wounds. As an aseptic dressing, glycerine is competent only in fresh wounds, not after putrefaction has set in.—*Cincinnati Lancet. St. Petersb. Med. Woch.*

——Longevity.—Maria P. died in this city November 14th, at the unusual age of 110 years, 4 months and 15 days. She was a native of Spain, and came to this country fourteen years ago.

——The Doctor's Ratio.—In the United States there is one doctor to every 600 persons; in Canada, one to 1,193; in France, one to 1,672; in the Austro-Hungarian empire, one to 2,500; in the German empire, one to 3,500.

——Gastrotomy.—Dr. Otto Risel, of Halle, operated. Patient died. Cholecystotomy.—Dr. J. M. Sims operated. Patient died. Enterestomy, though never performed upon the living human subject, will be attempted so soon as M. Surmay finds a suitable case. Vide *Lond. Med. Record,* June 15, July 15, Aug. 15, 1878.

NAME.	GRADUATE OR LICENTIATE OF	DATE OF MEMBERSHIP.
Frank B. Green,	*College Physicians and Surgeons, N. Y.*, 1876,	1876
Henry J. Hesse,	*Long Island College Hospital*, 1876,	"
Algernon Thos. Bristow,	*College Physicians and Surgeons, N. Y.*, 1876,	"
George W. Brush,	*Long Island College Hospital*, 1876,	"
Alex. B. Van Wagner,	" " " " "	1877
Theron Tuttle,	*College Physicians and Surgeons, N. Y.*, 1854,	"
John R. Quinn,	*Long Island College Hospital*, 1872,	"
Wesley Sherman,	" " " " 1876,	"
John H. Coverly,	*L. R. C. P. and S. Ed.*, 1875,	"
George E. Brown,	*College Physicians and Surgeons, N. Y.*, 1875,	"
Phœbe J. Ferris,	*Woman's Medical College, N. Y.*, 1872,	"
Adelbert D. Atwood,	*University of Buffalo*, 1872,	"
Edgar F. Peck,	*College Physicians and Surgeons, N. Y.*, 1833,	"
Verranus Morse,	*University, City of New York*, 1849,	"
Charles F. Young,	*Long Island College Hospital*, 1868,	"
† Forrest A. Gillen,	*University, City of New York*, 1877,	"
Arnold Stub,	*Geneva Medical College*,	"
John A. Ray,	*College Physicians and Surgeons, N. Y.*, 1874,	"
Archibald Campbell,	" " " " " 1871,	"
Francis Eskens,	*University of Bonn*, 1866,	"
Albert M. Curry,	" " *Penn.*, 1875,	"
Paul H. Kretzschmar,	*Long Island College Hospital*, 1877,	"
Gustav Schmetzer,	*University, City of New York*, 1876,	"
Richard C. Baker,	" " " 1874,	1878
Henry C. McLean,	" " " 1873,	"
Michael Breen,	*L. R. C. S., Ed., Queen's University, Ireland*, 1861,	"
Charles D. Cook,	*Vermont Medical College*, 1873,	"
Howard Whiting,	*College Physicians and Surgeons, N. Y.*, 1870,	"
Fred. C. Von Weber,	*Bellevue Hospital Medical College*, 1875,	"
Frank E. West,	*Long Island College Hospital*, 1874,	"
George R. Cutter,	*College Physicians and Surgeons, N. Y.*, 1861,	"
Ralph L. Parsons,	*N. Y. Medical College*, 1857,	"
Alex. S. Clark,	*College Physicians and Surgeons, N. Y.*, 1876,	"
J. Fred. Moore,	*University, City of New York*, 1861,	"
Geo. F. Ketcham,	*Long Island College Hospital*, 1874,	"
Arthur Hyatt Clark,	*College Physicians and Surgeons, N. Y.*, 1877,	"
H. W. Rand,	*Bellevue Hospital Medical College*, 1877,	"
George W. Welty,	" " " " 1870,	"
S. Oscar Myers,	*Albany Medical College*, 1874,	"
John Becker,	*New York Medical College*, 1855,	"
Edwin Reynolds,	*College Physicians and Surgeons, N. Y.*, 1877,	"
Frank M. Hoyt,	*Bellevue Hospital Medical College*, 1877,	"
Andrew J. Dower,	" " " " 1878,	"
Herbert C. Rogers,	" " " " 1878,	"
Thos. M. Rochester,	*University of Buffalo*, 1878,	"
John C. Richardson,	*College Physicians and Surgeons, N. Y.*, 1877,	"
Albert Fürgang,	*University, City of New York*, 1861,	"
Jared Willson,	*College Physicians and Surgeons, N. Y.*, 1877,	"
Herman Hardrich,	*University, City of New York*, 1876,	"
Jos. Alfred Carreau,	*Victoria University, Montreal*, 1875,	"

The above list is a continuation of the Chronological List of Members published in our issue of December, 1876.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The December meeting will be held on the 17th, at which time there will be presented the following papers :

Symptoms and Signs of the Precursory Stage of Phthisis, by Dr. S. G. Armor.

Forcipressure, or Hæmostasis after the Method of Péan, by Dr. L. S. Pilcher.

At this meeting nominations will be made for officers of the Society or 1879.

——New Members.—At the November meeting, Drs. J. N. Farrar Benjamin Ayres and Guy F. Daly were elected. The following were proposed: Drs. George Drury, 128 Nassau Street; O. J. D. Hughes, 165 Clinton Street; William A. Little, 682 Myrtle Avenue, and Kate Woodhull, 278 Monroe Street.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

OFFICERS AND COMMITTEES FOR 1878.

President.....Alex. Hutchins, M.D., 796 De Kalb Ave.
Vice-President.....C. Jewett, M.D., 310 Gates Ave.
Secretary.....R. M. Wyckoff, M.D., 532 Clinton Ave.
Assistant Secretary.....G. A. Evans, M.D., 449 Bedford Ave.
Treasurer.....G. G. Hopkins, M.D., 375 Grand Ave.
Librarian.....W. H. Thayer, M.D., 171 Livingston St.

CENSORS.

J. D. Rushmore, M. D., (Senior Censor), G. W. Baker, M. D., R. M. Buell, M. D., J. H. H. Burge, M. D., F. W. Rockwell, M. D.

DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

Drs. J. C. Shaw, S. G. Armor, R. M. Wyckoff, Drs. A. J. C. Skene, G. G. Hopkins, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

COMMITTEES OF THE SOCIETY.

HYGIENE.

Drs. F. H. Stuart, T. P. Corbally, J. Walker, W. E. Griffiths, J. H. Hunt.

REGISTRATION.

Drs. C. H. Giberson, W. E. Griffiths, J. A. Jenkins, Drs. W. G. Russell, N. Matson, F. W. Rockwell, Drs. R. M. Buell, R. W. Wyckoff,

PUBLIC INSTRUCTION.

Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, DECEMBER 17, 1878.

SYMPTOMS AND SIGNS OF THE PRECURSORY STAGE OF CONSTITUTIONAL PHTHISIS.

BY S. G. ARMOR, M. D.

It is, I believe, a very common impression that there are few diseases of more easy recognition than pulmonary consumption; and yet if this applies to the precursory or pretubercular stage of the disease, the reverse of the statement is correct. It is to this stage I desire to attract attention.

The object of the paper is to briefly and systematically classify fragments of knowledge already possessed on the subject, rather than attempt to present new and original matter in the paper itself. Moreover, my brief contribution to the clinical history of the early stage of the disease may serve to stimulate others to complete a work which I have so imperfectly commenced.

The points discussed in the paper are mainly these:

Can this precursory stage be recognized with any degree of certainty? And if so, by what means?

These are questions of great practical importance; for the study of the disease at more advanced stages is too often a mere "meditation on death."

It may not be out of place in this connection to devote a moment to the definition of terms used in the paper.

Precursory Stage.—By this we are to understand a "morbid stage existing intermediate between the mere diathesis, on one hand, and the deposit of solid tubercle on the other"—sometimes known as the *pretubercular stage.*

The Diathesis is a "constitutional predisposition to the disease which, under favorable circumstances, may never be developed."—*Lawson.*

These terms and their definitions indicate the line of discussion I shall follow. I shall limit myself to the form of consumption which stands directly related to a DIATHESIS, excluding, of course, the acquired, accidental and pneumonic varieties—altogether the most common forms of the disease. And I propose to discuss it from a clinical rather than a pathological point of view. I shall omit, therefore, all controverted questions as to the essential nature of tubercle, and shall make no allusion to *acute* constitutional phthisis—a disease peculiar to early life, and difficult to distinguish from some of the essential fevers associated with general capillary bronchitis.

Sub-acute constitutional phthisis differs from other recognized varieties in the fact that the *constitutional symptoms precede the local:* it has a distinct and well-marked diathesis, which may or may not terminate in pulmonary consumption. This is an important point in the discussion of the question; for if consumption is essentially a tuberculous disease—*i. e.*, a primary neoplasm in the lung structure of a quasi-malignant character, as supposed by some, then we accomplish but little in the way of constitutional treatment of the disease. According to this view tuberculosis is the original cause, and the pretubercular stage is simply the first stage of its development.

For convenience of description I shall divide the symptoms into:

1st. Those which affect the system at large; and

2d. Those which spring directly from the pulmonary organs.

State of the General System.—Tuberculosis, whatever be its essential nature, has its basis in mal-nutrition. Upon this point there can be little disagreement: a healthy man, in good state of nutrition, contracting consumption, would be a phenomenon. And yet I would not be understood as affirming that tubercular consumption is a necessary result of mal-nutrition. If that were true, an overwhelmingly large proportion of the human race would probably die of consumption, for anæmia is a widespread pathological condition. It is no more a necessary result of degraded nutrition than the mistletoe is a necessary part of the tree to which it attaches itself. Nor is it, in its essential variety, the result of inflammatory action engrafted on bad nutrition. Tubercle, in constitutional phthisis, is an early dominating element of distinction which sustains close relation to the diathesis.

Two things, then, are necessary, according to the views presented in this paper: *First*, a degraded condition of general nutrition, a lowered vitality, which is a condition necessary and precedent to the more pronounced development of the disease; and, *Second*, a specific determining

diathesis, which, under favorable circumstances, may never be developed.

In using the term *specific*, however, I do not mean to favor the *infective* nature of tubercle in the sense in which small-pox and other infectious diseases are communicated to the fœtus in utero. Nor would I affirm, with Laennec, that "phthisis always depends upon tubercle." It depends rather, in its constitutional form, upon a diathesis, which brings with it low tissue producing power that tends to degeneration. This tendency to depart from the normal type of cellular evolution is transmitted from parent to offspring, and in this sense tubercular consumption is hereditary. It is the tendency, not the disease, that is transmitted, and this is an important point in the practical discussion of the subject.

Beyond this very brief and very general statement (necessary to understand what follows), I do not propose to discuss the subject of tubercle. Indeed, it would be folly to do so, when the most advanced workers in histology still differ as to its exact nature. The question must be settled by future study of the subject. It is the clinical study of the disease in which I am specially interested at present.

Scrofulosis.—Among the anomalies of nutrition favoring pulmonary consumption may be included the scrofulous cachexia. Upon this point, however, there is difference of opinion. And we cannot fail to observe, of late, that the discussion has taken a somewhat partisan turn. The French school, who adhere to the views of Laennec, regard tubercular disease of the lungs in the light of a unity; whereas German histologists, who favor the dualistic views of the disease, claim that the scrofulous diathesis cannot be separated from the tuberculous. It is simply, they say, a coarser expression of the same picture. Clinical observation inclines me to this view of the subject. Scrofulous subjects, we know, are particularly prone to diseases of the lymphatic system. Hence the tendency, under the disturbing influences of inflammation, to the so-called "lymphoid outgrowths," so characteristic of the general tubercular diathesis. But, strange as it may seem, as already intimated, histologists differ as to what they actually see in the lungs of consumptives. They agree on the anatomical facts, but differ in their interpretation. Thus the "cheesy nodules" of one school is the "true tubercle" of another; and even the diffused miliary tubercles of the essential form of phthisis are believed by many good observers to be simply lymphoid and connective tissue hyperplasias; comparatively harmless as such, but dangerous in their degeneration and death, and in the inflammatory action which they set up, as foreign material to the structures in which they are imbedded.

Now while histologists are settling these controverted questions of fact, some of us incline to the view that there is a direct relationship between the scrofulous and tuberculous diathesis—an opinion based largely

on the life history of the disease. It has been often observed, for instance, that persons who, during childhood, have enlarged lymphatic glands, enlarged tonsils, moist cutaneous eruptions, running ears, croup, and cerebral irritations, are liable, at later periods, to tubercular disease of the lungs. But whether the tuberculization is secondary to the cheesy nodules, so often observed in the scrofulous constitution, may still be regarded as an open question. But it is a question, as will be seen, that relates to the form of the disease, not to its essential nature. In one case tubercle may be a primary element; in another, secondary. But in either view of the case, the two diseases stand closely related to each other clinically, and cannot, therefore, be separated in this discussion.

Tuberculosis.—In other cases, however, the tubercular tendency does not appear to be either acquired or accidental. The primary and leading anatomical element is tubercle. It is inherent in the organism, and has its basis in a well-marked diathesis. There is a great underlying vice of constitution which commences with the very first evolution of existence. I have already alluded to the general condition of constitution characteristic of this diathesis. It has a distinct and well-defined clinical history. Such persons are apt to complain of great weariness and debility. They show early symptoms of exhaustion; and, with general failure of strength, there is gradual loss of weight, and general depressed functional activity, *without being able to assign any cause for such condition.* At least physical examination of the chest fails to account for the general depression and constitutional disturbance of the patient. By and by, slight febrile disturbance begins to manifest itself, especially in the evening; and still, perhaps, no evidence of lung trouble can be observed.

Gastric Symptoms.—It is now claimed that symptoms referable to the digestive organs precede constitutional phthisis in at least seventy per cent. of the cases. Dr. Peacock, of St. Thomas's Hospital, states it much stronger than this. In a recent published lecture upon the subject, he says that "in all cases of consumption dyspeptic symptoms are present to a greater or less extent," and these symptoms, he adds, are observed at an early stage, "long before there is any proof that the lung tissue has become diseased." Dr. Dobell, of London, senior physician to the Royal Hospital for consumptives, is inclined to the view that, with these dyspeptic symptoms, the functions of the *pancreas*, whose duty it is to prepare the fats of the food for assimilation, are early disturbed. While many, at present, may be unwilling to admit all that Dr. Dobell claims for his views—viz.: that "pure tuberculosis commences when fats, properly acted upon by the pancreas, first cease to pass in normal proportions into the blood"—yet there are few who will doubt that the non-assimilation of food is a most potent primary element of the disease. Primary

nutrition being disturbed—including, perhaps, disturbed functional conditions of the liver and pancreas—the blood, at an early period, is impoverished, the patient becomes pale, cachectic in appearance, loses flesh, and presents all the appearance of the first stage of consumption.

Early dyspeptic symptoms, therefore, associated with languor, debility, and gradually increasing loss of adipose tissue, without any known cause for such debility and emaciation, should always at least excite suspicion of impending tuberculosis.

Chills.—With dyspeptic symptoms, loss of flesh, and gradual impairment of health and strength, there is a variable condition of calorification and innervation. Patients are apt to display peculiar susceptibility to cold, and a morbidly irritable condition of the nervous system. This is manifested at an early period by irregular chilly sensations, which are not unfrequently followed by slight febricula. A persistent heat above 99°, observed in a dyspeptic subject, with an irritable nervous system, easily excited to slight and transient chills, foreshadows constitutional phthisis before there are any signs of tubercles in the lungs, and these symptoms are greatly intensified in their significance when associated with increasingly diminished strength, loss of weight, and other evidences of weakened vitality unexplained by any other cause. In the precursory stage, the temperature is sometimes slightly below normal. Soon, however, it gradually rises.

Circulation.—Another symptom noticed in the precursory stage of a large number of cases of constitutional phthisis, is feebleness of heart action. The observations of Dr. Clendenning, that general emaciation in phthisis did not affect the heart, have been shown to be incorrect. "In true tubercular phthisis," says Peacock, "that organ undergoes a very marked diminution in weight"—*i, e.*, if not complicated by chronic bronchitis or valvular heart lesions. Hence the heart and arteries act irregularly and feebly, and the pulse is usually a few beats above the normal. But it is an irritable rather than an inflammatory pulse, and it is apt to give rise to irregular flushings of the cheek, and cold extremities. Consumption, from first to last, is characterized by feeble capillary circulation, with cold and pinched extremities. Occasionally the contrary is true—the hands and feet burn. In either case, however, there is a disordered condition of the circulation.

Feebleness of Respiratory Muscles.—This deserves more than a passing notice in this connection. It is an early characteristic of the tubercular habit of body, and stands directly related to certain physical signs which I shall mention in the sequel of my paper.

Fauces and Larynx.—A very common form of consumption, according to the observations of Peacock, is that in which the first symptoms

are those of a catarrhal sore throat and hoarseness. He inclines to the opinion, contrary to the teachings of M. Louis, that the laryngeal affection, in a considerable number of cases, precedes the development of pulmonary disease. And Lennox Brown, of London, who has had unusually favorable opportunities for studying diseases of the throat, favors the same view. Such was also the view held by Horace Green, Lawson, and others of our own country. There is certainly no form of consumption which so surely and steadily advances as the constitutional or tubercular variety; which commences in the laryngeal symptoms.

With the catarrhal form of the disease there can be no doubt of this relation; no fact is better established in the clinical history of the disease. A large proportion of cases of catarrhal phthisis begin with a naso-pharyngeal catarrh. This catarrhal condition extends to the bronchioles, developing in one case lobular pneumia, with all that that implies in its relations to phthisis, and in another to peri-bronchitis, which usually accompanies the fibrous forms of the disease.

These views are, of course, vastly important in their practical bearings; for if we recognize the order of morbid action here indicated, our attention is early directed to the condition of the *pharyngo-laryngeal mucous membrane.* May we not accomplish much toward preventing the extension of the disease into the pulmonary structure, by sedative and astringent applications made directly to the part thus primarily affected? for tuberculous patients, says Niemeyer, are apt to become consumptive. The danger is not from tubercle, but from the destructive inflammatory and ulcerative effects of tubercle on the parenchyma of lung substance.

Cough.—For obvious reasons cough is an early and almost constant symptom of the disease. It is a slight, tickling "throat cough," with but little expectoration, and yet the lesion which gives rise to it being somewhat permanent, it is an unusually persistent cough, and easily excited by the slightest exposure to damp or cold. It is a cough which is much more readily relieved by topical applications to the larynx than by the nauseous compounds which enter into the more popular cough mixtures.

Hemorrhage.—Bronchial hemorrhage, though usually slight, may occur without signs of co-existing tubercle as a precursory symptom of the disease. And early epistaxis has also been frequently observed. If the hemorrhage is profuse, the symptoms of phthisis are apt to develop themselves with greater or less rapidity, though careful examination may fail to detect, at the time, any signs of disease in the lungs.

Pulmonary or bronchial hemorrhage was regarded by the ancients as the cause of consumption; and recently the question has been revived by Niemeyer, and its importance insisted upon. It is undoubtedly a

common symptom, and often one of the first indications of the disease. But its causative relation to the disease may well be doubted. Hemorrhages not unfrequently occur many years in advance of active development of tubercles in the lungs. It would perhaps, therefore, more nearly express the truth to say that the hemorrhage is a concomitant rather than a cause of the pulmonary affection : it is rather a manifestation of a diathesis which may be rapidly tending toward pulmonary complication.

The symptoms which I have thus briefly sketched belong, as will be seen, to the system at large, and are only of value when taken in their totality, and in connection with the physical signs which spring directly from the pulmonary organs.

Physical Signs.—Can this precursory stage be recognized with any degree of certainty by Physical Signs before tubercular growths have taken place in the lung structure?—Upon this point there is difference of opinion, and much skepticism expressed by experienced and competent auscultators. I am inclined to think, however, that the doubt expressed grows out of theoretical rather than practical considerations. It appears to be assumed that there must be structural changes before there can be any physical signs by which the disease can be recognized. This, in a general way, is undoubtedly correct. Consolidation of lung tissue is one of the essentials in physical diagnosis. That certain physical signs, however, not necessarily involving consolidation, may be recognized in the precursory stage of phthisis, is, I think, susceptible of clinical demonstration. For the correctness of this statement I can only appeal to the clinical study of the subject at the bedside ; for the literature of the precursory stage of consumption, and especially of its physical signs, is meagre in the extreme. A brief contribution to physical signs observed in this early stage of the disease may be found in Lawson's work on Pulmonary Consumption. He was for years, in the early part of my professional life, my colleague in the Medical College of Ohio at Cincinnati. With him I studied the question on living subjects—not in text-books—and to him I desire to express acknowledgments for not only directing my attention to the subject, but for some of the facts and observations cited in this paper.

For the sake of system and convenience, let us study the phenomena disclosed separately by inspection, percussion, and auscultation.

Inspection.—The first thing that attracts attention in the precursory stage of a typical case of constitutional phthisis is the shape of the chest, and notably the "paralytic thorax," traceable to debility of the moving powers of the parietes already referred to. It follows that dilatation of

the chest is comparatively incomplete, so that inspection during *tranquil* breathing reveals limited expansion, *extending equally to both sides.*

Now it will be observed that the distinctions between this precursory stage and that which occurs after the deposit of tubercle are marked and characteristic. The diminished movements in the first stage are not only equal on both sides, but are perfectly restored by *full and forcible inspiration.* This symmetrical restoration is, of course, impossible after tubercles have been deposited. The expansion, such as it is, is unequal, for it is rarely that both apices are simultaneously attacked. Inspection, then, in the pretubercular stage, reveals two facts worthy of note ; *first*, diminished expansion on both sides ; and, *second*, complete restoration by forcible inspiration.

Another mode of detecting weak respiratory power is by making the patient count aloud. Peacock calls attention to the fact that persons of average height, even in the early stages of phthisis, can rarely deliberately count, without drawing a fresh breath, as high as 30 or 35.

Percussion.—This gives rather negative results. Still, as a rule, there is less resistance felt than after the lungs are infiltrated with tubercles, and the sound elicited by the percussion note is less clear than pertains to a normal healthy chest. This is the result of causes already referred to, viz., diminished mobility of chest walls, and of normal elasticity of lung tissue. This want of elastic resiliency of the alveoli of the lungs is only one of the expressions of widespread error of nutrition which is so markedly characteristic of the tubercular diathesis.

Auscultation.—From this we derive valuable positive as well as negative testimony, especially as compared with sounds heard after tubercular deposit. After tubercles have been formed in the parenchyma of the lungs, it will be remembered that the auscultatory sounds are exceedingly variable : they may be feeble or harsh, dry, cracking, squeaking, small mucous or sub-crepitant. But, whatever be their character, they are *local and circumscribed*—rarely ever symmetrical—and they will be found localized at a point where you have recognized loss of expansive movements in the chest walls and increased resistance on percussion. This will be found usually at the apex of the lung. Persistent, localized, harsh sub-mucous or sub-crepitent râles, heard at the apex of *one* lung, are always to be regarded with suspicion.

In the *precursory* stage of the disease these sounds, so far at least as they relate to tubercular growths, are never heard. In their stead two signs are very constantly observed—namely, *weak respiratory murmur*, often interrupted, wavy, and "cog wheel" in its rhythm, and *prolonged expiration*, due to want of normal elastic recoil of the air cells, and to debility of the respiratory muscles—*i. e.*, if not modified by laryngeal

complications. The prolonged expiration is not *high* pitched, as after solidification from tubercle, but resembles rather the quality heard in emphysema. As the disease, however, insidiously creeps upon the patient, evidences of structural changes in the lung begin to gradually manifest themselves. The first thing usually heard indicative of tuberculization is a slight crepitation at the extreme end of forced inspiration, with gradually increased pitch on expiration.

In the discussion of the subject I have endeavored to confine myself as closely as may be to the precursory stage of one variety of the disease. At more advanced stages all varieties of phthisis become more and more alike. Practically considered, at least, they are only varieties of one disease—*Pulmonary Consumption.*

I stated, in the opening of my paper, that the recognition of the disease intermediate between the diathesis on one hand, and the deposit of solid tubercles on the other, was not easy. I now desire to qualify that statement. When the disease is carefully and intelligently studied—when all the facts of history and heredity are taken in connection with the symptoms and signs in their totality, giving to each an interpretation and value only after comparing the whole, there can be little doubt as to the conclusion arrived at. If we fail in our diagnosis, it ought to be attributed to ignorance of the means at our command, or to want of skill in their application, rather than to the uncertainty of the means themselves.

The importance of an early diagnosis I need scarcely allude to. It is the pivotal point on which the case is to turn for life or for death. In the one stage by rational prophylaxis and thorough medicinal and hygienic management, or it may be by entire change of climate, the disease may be arrested, or the fatal issue long deferred; in the other, it has gone beyond the reach of our art, the case is hopeless, the result a mere question of time.

FORCIPRESSURE, OR HÆMOSTASIS AFTER THE METHOD OF PÉAN.

BY L. S. PILCHER, M.D.

In watching the operations of M. Péan, Surgeon of the Hospital Saint Louis, in Paris, during the past summer, the most noticeable and peculiar feature of his methods to me was the extent and manner of the use which he made of certain light catch-compression forceps as a means of hæmostasis. With Péan these were the chief, almost the only means of hæmostasis employed, however large the vessels, or numerous the bleeding points.

The forceps used resemble the ordinary polypus forceps of our pocket-cases, differing slightly in the curves of its branches. (See Fig. 1.) These

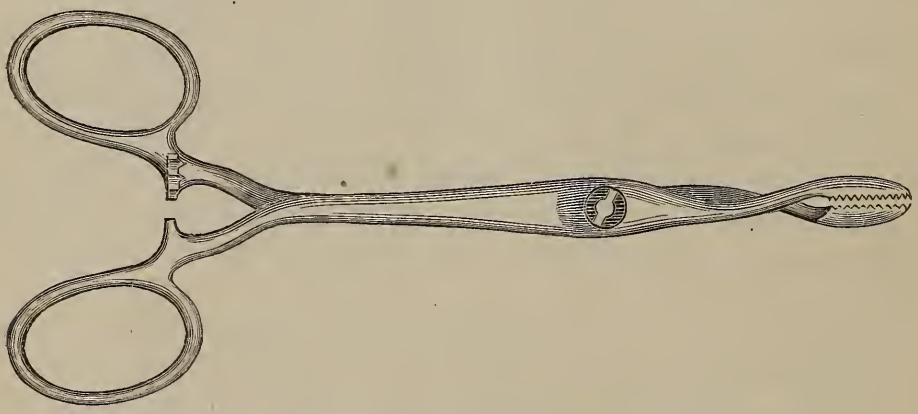

Fig. 1.—Hæmostatic Forceps of Péan.

are long, slender, and consequently elastic. The instrument as a whole is light and strong, and has a finish and appearance attractive to the surgical eye. A notched projection just below the ring on one branch, with a corresponding hook on the other branch, affords a catch by which the forceps may be quickly and easily locked in a secure grasp. These forceps are convenient in use; light and slender, they are but little in the way when applied, and may be permitted to remain indefinitely in the wound without dragging upon the tissues or causing pain to the patient.

In the course of an operation all bleeding vessels are at once seized and compressed by the forceps; no effort is made to exclude fibres of the surrounding tissue if the vessel is small. The number of forceps employed in any case will vary much. It was my good fortune to be present at an ovariotomy by Péan which was complicated by extensive and dense adhesions. At its close there must have been as many as

thirty of these little instruments clinging to the extensive raw surface produced by the separation of the cyst wall; this of course was an extreme case, but all hemorrhage was prevented!

Jaws of varying shapes have been devised to meet particular conditions; some of these are presented. (See Fig. 2.)

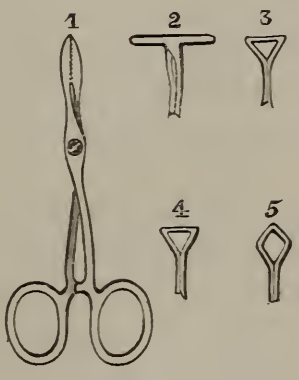

FIG. 2.

The theory of M. Péan as to the use of his hæmostatic forceps, together with his methods and his results, was the subject of a report published in 1875 by Messrs. Deny and Exchaquet, Hospital Internes.*

From this source I have been able to draw the substance of this notice.

In this report no claim is made to any priority in the use of forceps as a means of hæmostasis. It is acknowledged that many surgeons have extolled the use of forceps in the course of operations for the purpose of temporary hæmostasis, or to take the place of sufficiently skilled assistants, or in long and serious operations to arrest hemorrhage momentarily, to avoid stopping to apply ligatures.

The hæmostatic forceps of Péan are simply modifications of the *serres-fines* of Vidal de Cassis, by whom their use was recommended in cases in which the application of the ligature and other hæmostatics would be too long, too difficult, or of doubtful value.

The serres-fines have been but little used, except in the extirpation of voluminous tumors; at the close of an operation they have been withdrawn, after the ligature of all vessels still likely to bleed. It has been reserved for others later, and especially for Péan, to develop the method and the advantages of the employment of modifications of these serres-fines alone for obtaining final hæmostasis.

The distinctive appellation of *Forcipressure* was given to this method by M. Verneuil, surgeon to the hospital La Pitié, in a communication

* De la Forcipressure, ou de l'application des pinces à l'hémostasie chirurgicale, par G. Deny & Exchaquet, internes des hôpitaux de Paris, d'après les lecons professées pendant l'année 1874, par M. le Docteur Péan, chirurgien de l'hôpital Saint Louis.

made to the Surgical Society in 1875, in which he reports twelve observations of hemorrhages which he had repressed by means of one or more forceps left from two to ten days in the wound.

The term *forcipressure* is a happy one, and has taken its place by the side of *acupressure*, torsion, and ligation, in surgical nomenclature.

The length of time during which the forceps should remain in place in order to secure permanent hæmostasis varies much. Those which have been applied upon the arterioles of the skin, connective tissue and muscles, may usually be removed immediately at the close of the operation, especially if the region is one permitting the application of a light compressive dressing.

The forceps placed upon arteries of medium size may be withdrawn from six to twelve hours after the operation. Upon the main arteries of the limbs, including the femoral, M. Péan advises that they be left from two to four days. In addition, it is not to be overlooked that many conditions, other than the size of the vessel, must be considered in deciding upon this point.

Veins which have been compressed rarely demand further compression after the close of the operation, except in case of the great venous trunks, which demand the presence of the forceps for a shorter time, however, than do arteries of the same calibre.

The forceps thus left in the wounds are easily supported by the dressings, so as not to drag upon the tissues; rarely do they cause any distress to the patient, who becomes aware of their presence only when they are withdrawn. When removed, they should be taken away one by one with care, and, as soon as it shall have become certain that the points which they were compressing no longer bleed, the dressing should be made as usual.

In reply to the question whether the sojourn of these forceps in the wounds may not be attended with dangers, the assurance is given that their application upon tissues and organs the most prone to inflammation, as the gravid uterus, the bladder, the layer of connective tissue which covers the external face of the peritoneum, etc., has been attended with not the least inconvenience.

The claims for *forcipressure* are that, by rendering unnecessary the ligature in the course of operations, it shortens much their duration; by leaving no foreign body in the wound, it promotes cicatrization, and allows, when desired, union by first intention; and finally, that in all cases where the ligature is impracticable, this method will replace advantageously most of the other means hitherto used in such cases, as digital compression, the tampon, styptics, cauterization, etc.

An additional field for the employment of these forceps is their use in

certain conditions for the prevention of hemorrhage. In the removal of pediculated tumors, of polypi of the rectum and of the uterus, cancers of the lips and of the tongue, operations for relief of hare-lip, for castration, for hemorrhoids, and, in short, in the treatment of any growth or condition the vessels feeding which can easily be circumscribed, these forceps will be found of value.

I have but little experience of my own to quote as bearing upon the value of *forcipressure*. In ablation of the breast, in the removal of hemorrhoids, in tracheotomy, in amputation of the leg, and in secondary hemorrhage from the superior coronary artery, I have used the hæmostatic method of Péan with advantage. In tracheotomy particularly have I been pleased with the ease and certainty with which I have been enabled by the aid of these forceps to arrest annoying venous hemorrhage.

BROOKLYN PATHOLOGICAL SOCIETY.

Regular Meeting, Dec. 12th, 1878.

The President, Dr. F. W. Rockwell, in the chair.

HYDATIDIFORM MOLE.

The following is the history connected with specimen presented by Dr. Hesse, at the last meeting.

Mrs. R., æt. 47, has borne nine children, and had one miscarriage. Menstruation was regular up to the end of last August. Since then she has had some metrorrhagia.

On admission to St. Mary's Hospital, in November, the uterus was found to be enlarged to the size of one containing a five months' fœtus.

It was filled with a soft mass, and when grasped, some hydatidiform masses were expelled.

A considerable mass was removed per vaginam; but the hemorrhage was so great that it was necessary to desist.

The remainder of the mass was thrown out by the spontaneous contractions of the uterus on the following day. The hemorrhage then ceased.

REPORT OF MICROSCOPICAL COMMITTEE.

The tumor presented by Dr. Mathewson at the previous meeting was an angioma.

VALVULAR DISEASE ON BOTH SIDES OF THE HEART.

Dr. F. E. West presented a heart with the following history. The

patient was an unmarried female, 24 years of age. She was first seen by Dr. Geo. R. Westbrook—whose patient she was—on the 18th September, 1878.

History.—Rheumatism nine years ago. An inmate of the Long Island College Hospital, with "heart disease," six years ago.

Symptoms.—Great dyspnœa ; pain in cardiac region.

Signs.—Œdema of feet and legs, but of no other part of the body. Apex beat in the sixth intercostal space, under the nipple. A distinct pulsation in the left second intercostal space, one inch from the sternum.

Radial pulse about 60 and weak. The area of cardiac dullness increased. On placing the hand over the apex, a thrill could be felt (frémissement cataire). The heart sounds were loud and irregular. A presystolic murmur was heard over the apex. The diameter of the area of maximum intensity was about two inches. It was transmitted to the right, one inch beyond the sternum.

Treatment.—Digitalis made the action more regular and increased the quantity of urine, but did not reduce the œdema. This increased. Fluid Extract Jaborandi, and, later, Pilocarpine hypodermically, were used, but with no effect, except to produce violent vomiting. During the last three weeks ascites developed. There was a slight œdema of the left arm and hand, lasting only two or three days. During the last two months of life she was unable to leave her bed, the œdema of the legs was so great, and during the last three weeks a large amount of fluid was discharged from them.

Autopsy.—December 3d, twenty-four hours after death. Very extensive ancient adhesions of pleuræ and pericardium. Heart somewhat enlarged. Calcareous and atheromatous deposits in mitral valve, with contraction of its curtains.

Some insufficiency of aortic valves. The endocardium presented evidences of inflammatory trouble. The tricuspid valve was markedly thickened and somewhat retracted. The pulmonary semilunar were thickened, particularly at their bases. The lungs appeared normal. The liver was of the "chocolate-colored" nutmeg variety.

NECROSIS.

Dr. Freeman presented a sequestrum removed from the tibia of a boy in St. John's Hospital. It was the result of an injury received four years ago.

PORTAL PHLEBITIS.

Dr. McCorkle exhibited a portion of the jejunum with its attached mesentery, and a portion of the liver containing the portal fissure, from the following case :

History.—Mrs. C., æt. 63 years. Previous health good. On the 7th and 8th of December she complained of an occasional pain in the umbilical region. It did not interfere with her going about. On the 9th there was severe pain and vomiting of dark-colored fluid. She also had a copious tarry evacuation of the bowels. She gradually sank, and died at 8:30 P.M., Dec. 9th, of syncope.

Autopsy.—The body was very fat, but anæmic.

Abdomen.—The peritoneal cavity contained a small quantity of red fluid. The *stomach* was distended with gas and pale in appearance. It contained a little blackish fluid. The *duodenum* was very much congested and contained dark greenish fluid. The upper 8–10 feet of the *jejunum* were very dark red, resembling the color of clotted blood, and serum had evidently oozed through the coats. The coats were twice the normal thickness, infiltrated with venous blood. The cavity of the intestine contained clots. The mesenteric veins in this vicinity were filled with thrombi. This condition extended into the portal vein, and into its branches in the liver, particularly in the right lobe. The mesenteric veins were thickened and the tissue of the mesentery adjoining had in some places undergone inflammatory induration.

The *ilium* and *large intestine* were normal. The *liver* was fatty. There was a cyst of the left ovary, about two inches in diameter. Thorax and head not examined. He had been assisted at the autopsy by Dr. Westbrook.

In reply to the questions of members, Dr. McCorkle stated that the arteries, so far as observed, were not degenerated; there had been no evidence during life of disturbance of the pulmonary circulation. He thought the inflammation had started in the intestinal walls and was acute.

☞ The Secretary requests members who present specimens to present therewith a *written* account of the case and of the pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides. Address Dr. E. S. Bunker, No. 280 Henry Street, Brooklyn.

Benj. F. Westbrook, *Secretary.*

BROOKLYN ANATOMICAL AND SURGICAL CLUB.

Stated Meeting, November 18th, 1878.

The President, Dr. L. S. Pilcher, in the chair.

ARREST OF DEVELOPMENT IN THE STERNUM—REPORT ON THE CASE OF THE LATE DR. E. A. GROUX.

Dr. Chas. Jewett presented the sternum removed from the body of the late Dr. E. A. Groux, with an account of his case, as follows:

By imperfect fœtal development the sternum may be perforated by a small foramen at its lower portion; it may be partially or wholly divided by a vertical fissure, or it may be entirely wanting. The occurrence of a sternal foramen is by no means rare. Fissures occur oftener in the lower than the upper portion of the bone, and are rarely complete.

These malformations of the sternum are due to failure of the primitive cartilages to unite in the fœtus, and obviously are not explained by failure of ossification as stated by Gray and others.

"The osseous sternum is preceded by a continuous or non-segmented piece of cartilage; and as the portion of the body in which this is developed is formed by the union in the middle line of the two 'ventral laminæ' of the embryo, traces of this original median division are generally seen in very young sterna, and are often persistent through life in the form of fissures or fenestræ in the middle line of the sternum." (W. H. Flower, Osteology of the Mammalia, p. 73.) They accord in their order of frequency with the fact that the closure of the thoracic cavity in the embryo progresses from above downwards.*

When the bony fissure is complete, the arrest of development usually involves also the overlying soft structures, the thorax thus being entirely open and the heart exposed—*ectopia cordis*.

The rarest of these imperfections of the sternum is a complete median fissure of the bone, with no other failure of development. To this class belongs the case of the late Dr. E. A. Groux. This case has for many years been an object of medical interest throughout the world, and has been the subject of numerous publications, both in this country and in Europe.

In the *American Medical Monthly*, January, 1859, was published the Report of a Committee of the New York Pathological Society appointed to examine Dr. Groux.† I quote from that report: "There is no defi-

* Humphrey on the Human Skeleton.

† This committee consisted of Drs. J. C. Dalton, J. T. Metcalfe, and E. R. Peaslee.

ciency of bony substance, but simply a median fissure. The clavicles are articulated with the lateral halves of the sternum, and the costal cartilages join the bone on each side in the usual manner. The sternal attachments of the sterno-mastoid muscles are also in their natural positions; but the sterno-hyoid and sterno-thyroid muscles, both right and left, are attached below to the left half of the sternum.

The left half of the sternum is also situated upon a plane somewhat anterior to that of the right; so that when the two edges of the fissured bone are drawn together by muscular action, the left edge projects in front of the right. When Dr. Groux stands erect in an easy position, the fissure is one inch wide at the widest part, *i.e.*, about the junction of the upper and middle thirds.

By forcible separation the width at the same point is two inches; by forcible approximation, one-quarter inch.

The impulse of the heart is normal in character, and is felt a little above the level of the fifth rib, a little inside the plane of the left nipple. In the medio-sternal space, in the ordinary erect position of the body, is visible to the eye a pulsating tumor, situated, apparently, just beneath the integument. The pulsations of this tumor extend from the second to the fourth intercostal space, and from the median line to the left edge of the fissure.

They consist of alternate contractions and dilatations which correspond in frequency with the pulsations of the heart and arteries. The contractions of the tumor are synchronous with the impulse of the heart at the level of the fifth rib.

When Mr. G. takes a deep inspiration, followed by a long slow forcible expiration, the pulsating tumor in the medio-sternal space disappears at the time of inspiration, but toward the end of expiration it again shows itself, and gradually becomes very much increased in size.

This pulsating tumor has been considered by different observers to be, first, the right auricle;* second, the right ventricle; third, the aorta.

[By some the great veins were believed to constitute a portion of the pulsating tumor.—J.]

The committee are of the opinion that the pulsating tumor in the medio-sternal space is the right ventricle."

Dr. Groux died October 15, 1878, at the age of 45 years. The autopsy was made October 17, by Dr. Henry Riedel, of this city. Professor J. C. Dalton, of New York, and a large number of other medical gentlemen were present. Our President, Dr. L. S. Pilcher, Dr. G. W. Baker, and your reporter were among the number.

* Among these, Sappey, Bernard, Magendie, Richet, Verneuil, Hammernik, Pavy, and many others.

Before opening the thorax, the trachea was ligated, to prevent displacement of the heart by collapse of the lungs.

An incision through the skin and superficial fascia opened directly into the anterior mediastinum. No other structure bridged the space between the lateral halves of the bone.*

The heart was found normal in size and shape, and normally situated, except that the position was slightly higher than usual, the apex presenting at the level of the upper border of the fifth rib. The right auricle lay wholly to the right of the median line. The position of the right ventricle corresponded precisely with that of the pulsating tumor described in the above report.

The anatomical appearances of the malformed bone are well displayed in the accompanying figure. Were the lateral halves united a slight deficiency in width would be seen at the upper portion of the manubrium, perhaps one-half inch. The lower segment of the gladiolus would also be found somewhat smaller than usual. Otherwise there is no deficiency of bony substance.

It will be seen that the articulations of the fifth, sixth and seventh costal cartilages deviate somewhat from their normal relations to the lower segment of the gladiolus. While the fissure divides the entire bone, the lateral portions of the lower segment of the gladiolus articulate with each other. Each articular surface is covered by a cartilage, and the two parts of the bone are bound together by external ligamentous bands. The articular cartilages of this joint blend below with the ensiform appendix.

The vertical depth of the fissure from the level of the sterno-clavicular articulation to the bottom of the cleft is four inches.

Width at the level of the first costal cartilage, one inch.

Width at widest part, 1.4 inch.

The specimen has been carefully prepared by Dr. Pilcher, for the Museum of the Anatomical and Surgical Club, to which it has been formally donated by the widow of Dr. Groux.

Among similar cases of malformation or absence of the sternum that I have been able to collect are the following:

In the *American Practitioner*, Oct. 1878, Dr. J. T. Hodgen, of St. Louis, reports a case of congenital fissure of the sternum, with exstrophy of the heart. The heart was wholly outside of the thorax. The integument was continuous over the fissure, except an opening in the median line, through which the vessels passed. The child died on the fifth day after birth. The sternum in this case presented an U-shaped cleft, ex-

* The Committee of the N. Y. Patholog. Soc. reported that this space "was apparently covered with a strong subcutaneous fibrous sheet of aponeurosis."

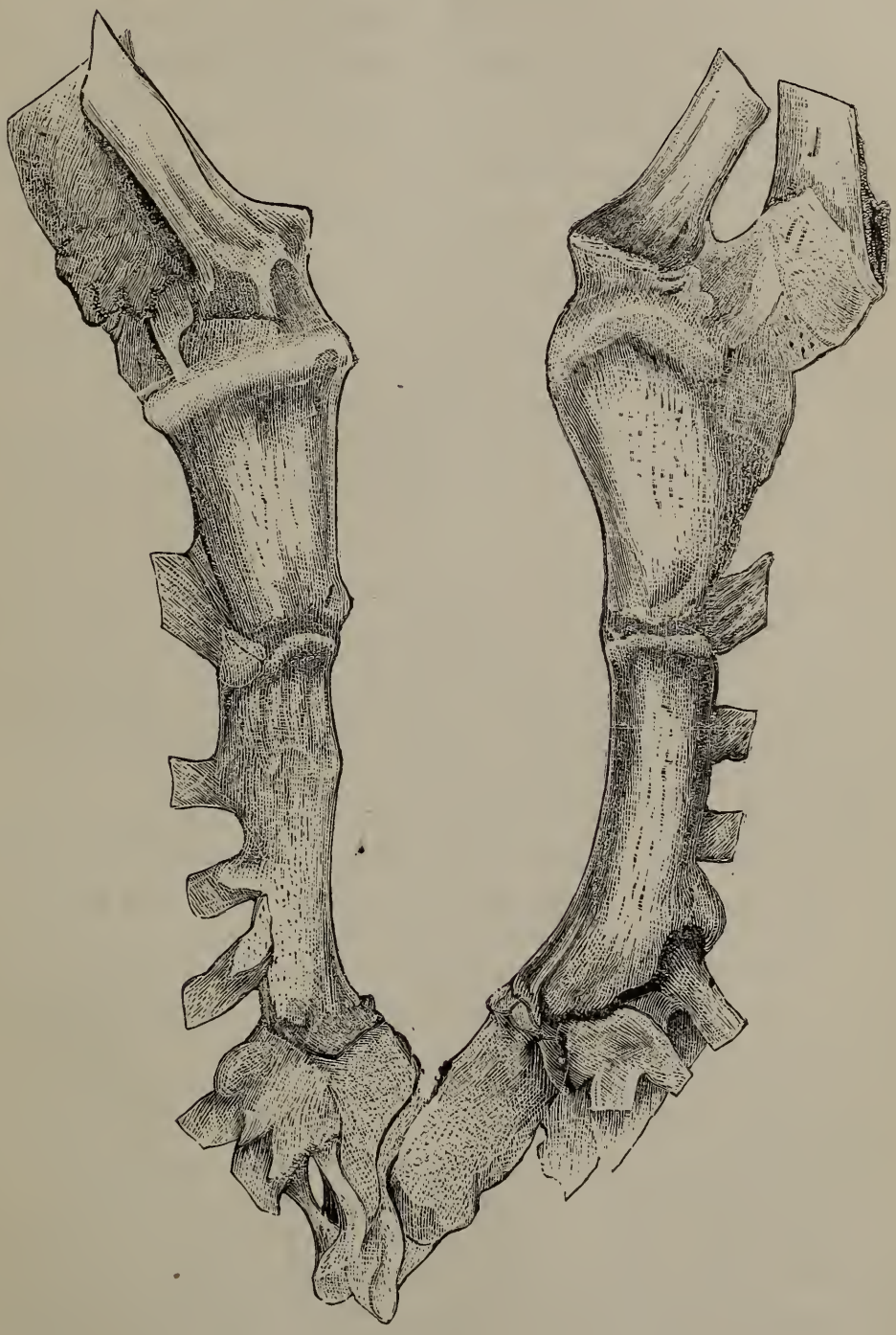

FIGURE OF STERNUM FROM THE LATE DR. E. A. GROUX.—¾ SIZE.

tending down to a point opposite the articulation of the fourth rib with the sternum. Width of the opening, one inch.

Dr. A. M. Slocum (Trans. Coll. of Phys., Phila., 1860, III N. S., p. 310), describes a case of congenital fissure of the upper half of the sternum in case of a woman twenty-five years of age. Fissure filled up with a strong ligament and covered with the common integument. Vertical depth, three in.; ordinary width, one and a half in.

Professor Abbott (Mem. Soc. de Biologie, tome IV, 1 ser., p. 163) relates a case of absence of sternum in an adult negress, married, and the mother of three perfectly developed children.

Dr. Otto Obermeier (Virchow's Archiv. 1869, XLVI, pp. 209–217) says that several cases of bifid sternum are to be found in the literature known to him—few in adults—and gives valuable bibliography.

Prof. C. L. Ford writes that the Museum at Ann Arbor "contains a sternum with an opening in the middle, of small size, and another of less width."

Dr. Groux is supposed to have possessed the power to arrest the action of the heart at will. On taking two or three quick inspirations, by an effort the cardiac movements were apparently stopped. The writer once witnessed this experiment, though without opportunity for personal examination. The duration of the supposed arrest was about twenty seconds. The Doctor remarked that he had never deemed it prudent to prolong it beyond that time.

Some years ago Dr Groux was examined at the Long Island College Hospital. Dr. J. H. Raymond, Professor of Physiology in that institution, writes: "The experiments of Dr. Groux were made while standing. The time during which the heart's action was arrested was very brief, but sufficiently long to satisfy several (medical gentlemen) of the fact. I was myself convinced that he could voluntarily arrest the action of the heart, and I am still of that opinion."

Dr. S. G. Armor, Professor of the Practice of Medicine in the same college, says:

"While my ear was applied to the chest the heart ceased to beat. The time of suspended action was very short, and I was not satisfied as to the immediate cause. I am inclined to the opinion, however, that it was mechanical rather than mental. He claimed, I believe, that it was purely mental, the result of his volition. But the volitional act appeared to always immediately follow two or three deep inspirations. I have no reason to suppose that the Doctor himself attached any importance to the deep and forcible breathing, other than as security during the temporary suspension of the heart's action. But that the heart did cease to beat for a time, there cannot, I think, be any doubt.

Dr. Middleton Michel, Prof. Physiol. and Histol., Medical College of State of South Carolina, in a recent paper (Boston Medical and Surgical Journal, Oct. 31, 1878), describes the case of a negro, who, he says, could arrest the action of the heart at will. Prof. Michel had personally examined the negro and witnessed the experiment. He states that he had also examined "a Mr. Grew, in whom there was an arrest of development of the sternum." (The person meant is, undoubtedly, the subject of this report.) He testifies that, in the case of Mr. G., "there was temporarily no pulse throughout the system," and that "the experiment lasted almost two minutes." In the case of the negro, the act was not so prolonged.

In answer to inquiry as to the authenticity of alleged cases of voluntary control over the heart's action, Dr. Austin Flint, Jr., says: "I have never seen a report of a case that has been satisfactory to me."

In reply to a similar question, Prof. J. C. Dalton writes: "The impression which they give me is that there are none of them of any real value.

I suppose the earliest reported case of this kind is that about the year 420, by Saint Augustine, who speaks of a certain elder of the church in Calamo, named Restitutus, who could at will pass into a state of syncope or apparent death, and come out of it again. But Saint Augustine does not pretend to have seen the case himself, or even to have known the man. He only reports it as something which many of the brethren recollected (*quod plerique fratres memoriâ recentissimâ experti sunt.*)" The entire quotation is given in D. H. Tuke, M.D.: Influence of the Mind upon the Body. London, 1872, p. 345.

The case mentioned by Dr. Darwin (Darwin's Zoönomia, 1794, vol. I, p. 39), says Professor Dalton, is without satisfactory authority.

The performances of the East Indian Fakirs (Observations on Trance, James Braid, M.R.C.S., London and Edinburgh, 1850), who, weeks after burial, were exhumed alive, he shows to be "pure deceptions" comparable to the "tricks of the Davenport Brothers." Of the only recorded case that has been almost universally accepted as authentic, he says: "After all, the most authentic case of this kind is that of Col. Townshend, reported by Dr. Geo. Cheyne. This case has been frequently referred to, and is quoted in many medical works. It is often stated in such a way as to give the impression that it was of tolerably recent occurrence and well attested: that Col. Townshend was a man in the prime of life and in fair health, but having the power to stop the action of his heart at will, and that he was in the habit of doing this whenever he pleased, and of returning to his usual condition afterward. The facts were very different. The case happened nearly 150 years ago.

Col. Townshend, when seen by Dr. Cheyne, was in the last stages of a chronic disease of the kidney. Early one morning he sent for the doctor and his assistants in order to ask them about an 'odd sensation' which he had felt, as he said, for 'some time.' Presumably this was during the previous twenty-four hours, or less, as he had been visited regularly by his medical attendants every day, and had said nothing about it before. The sensation in question was that he 'could *die* or *expire* when he pleased, and yet by an *effort* or somehow, he could come to life again.' This he tried before Dr. Cheyne, and actually became, to all appearance, dead, without pulsation or respiration, remaining so for half an hour, and then returning to consciousness. This was the only occasion on which Dr. Cheyne either saw the phenomenon or heard anything about it. It took place about nine o'clock in the morning, and Col. Townshend died on the evening of the same day; the autopsy being performed on the day following. This is the whole of the celebrated Townshend case. It is related in Dr. Cheyne's treatise on the *English Malady* or Nervous Diseases. London and Dublin, 1733, p. 209.

However, I do not think that any of these cases have much bearing on that of Dr. Groux. In all of them the subjects were supposed to induce in themselves, by voluntary effort, a state of trance, or cataleptic insensibility, in which all the functions of life were apparently suspended together.

With regard to Dr. Groux, as I understand it, it is claimed that he could, at any time, arrest the heart's action, without producing insensibility, unconsciousness, or any other disturbance of his usual condition, beside the stoppage of the circulation.

If true, this would be very different from any of the previous alleged cases. When Dr. Groux was examined, some years ago, by Dr. Peaslee, Dr. Metcalfe and myself, we were not able to see that he did anything else than to stop the pulse at the left wrist, the circulation continuing everywhere else."

In their report, the Committee of the N. Y. Path. Soc. attributed the power to stop the pulse at the wrist to the unusual mobility of the clavicle, by which the subclavian artery was compressed at the top of the chest.

As bearing upon the question of ability to arrest the heart at will, I quote the following: "The heart may be stopped indirectly by a voluntary effort. This is effected first, by distending the lungs, stopping the mouth and nose, and making a strong inspiratory effort; second, by partially emptying the lungs, stopping the mouth and nose, and making a strong inspiratory effort. These are dangerous experiments." (Physiology of the Circulation. J. B. Pettigrew, Lect. on Physiol., at Surgeon's Hall, Edinburgh.)

Prof. Michel attributes the arrest of the heart to voluntary suspension of respiration. (Boston Med. and Surg. Journal, Oct. 31, '78.)

In experiments upon animals the effect of suspending the respiration is as follows (Flint's Text Book of Physiology, p. 54): The obstruction to the circulation begins in the systemic capillaries, and is propagated back to the heart through the arteries. After about one minute the frequency of pulsation begins to diminish. Later the cavities of the heart become engorged with blood, its muscular fibres paralyzed, and (after perhaps four or five minutes) it ceases to beat. "It is in this manner," Dr. Michel declares, "that a temporary interruption to the circulation and heart's action is effected" in cases like that of Dr. Groux.

This theory is clearly untenable, for the following reasons:

I. In the examination of Dr. Groux, held at the Long Island Coll. Hospital, the arrest of the heart was *immediately* preceded by deep inspirations.

II. In suspended respiration consciousness and voluntary motion are abolished by dark blood in the cerebral capillaries before the stoppage of the heart.

III. When the action of the heart is once arrested by interrupting respiration, its irritability being exhausted and the nervous system narcotized by unaërated blood, the circulation is never restored. (Vide Works of Sir B. C. Brodie, vol. I, Effects of Strangulation.)

It has been suggested that possibly in the experiments of Dr. Groux, the cardiac movements were not arrested, but simply rendered inaudible by the protrusion of the lung into the fissure, and over the heart, during forced inspiration. But, were this possible, so good observers as the gentlemen who conducted the examination at the Long Island College Hospital could not have omitted to eliminate this source of error.

The method stated by Pettigrew, I assume, does not explain suspension of the cardiac movements for twenty seconds.

The subject of alleged ability to control the heart's action must be committed to the physiologists for further investigation.

The literature of fissured sternum not already given is chiefly embraced in the following

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CARIES OF TARSUS—AMPUTATION AT ANKLE—RE-AMPUTATION THROUGH LEG AFTER THREE MONTHS.

Dr. G. R. Fowler presented the parts removed by a re-amputation of a leg, with the following history: Adult male; blacksmith; horse stepped upon tarsus three years previously; at end of two years an abscess; six months later, partial excision of tarsus; three months after this, amputation at the ankle.

Patient came under Dr. Fowler's care two months after this amputation. That operation having been done by a long anterior or dorsal flap, and a short posterior or heel flap, the cicatrix was directly across the face of the stump and at the point of greatest pressure in walking; several sinuses still remained, which led down to carious bone.

Re-amputation was recommended and accepted. This was done at the point of election by the circular method; the vessels were secured by anti-septic catgut ligatures, and the wound dressed anti-septically; the after-dressings were also according to the anti-septic method. Union by first intention was secured through much of the wound; a small slough from the upper external portion of the skin flap occurred; case otherwise has progressed perfectly satisfactorily.

HERNIA DIAPHRAGMATICA VERA.

Dr. L. S. Pilcher presented and demonstrated the following specimen:

The piece included the diaphragm, œsophagus and stomach, together with portions of the seventh, eighth, ninth and tenth ribs of the left side. In the diaphragm, beginning one-half an inch to the left of the œsophageal opening, was an ovoid aperture, two and one-half inches in its long diameter, by one and three-quarters in its short. The long axis of the aperture extended obliquely outward and backward. Its margin was rounded, smooth and thickened. Into this opening was wedged the stomach, which, by a twist in the œsophagus, was altered in its relations so that its cardiac extremity was directed to the right, its pyloric to the left, its posterior wall being in front.

The anterior wall of the stomach, now the posterior, was firmly adherent to the entire posterior half of the margin of the diaphragmatic opening or ring along a line passing from the œsophagus directly down to the greater curvature, thus dividing this surface of the stomach into two nearly equal parts, one part within the abdomen, the other within the sac into which this ring led. From the point where this line of adhesion terminated at the greater curvature outward to the pylorus, an omental fold was reflected to the anterior and outer margin of the ring, with which it became firmly adherent. This fold of omentum was about two inches in length, and allowed considerable play to the portion of the stomach which it tied to the ring. The lesser curvature of the stomach was sharply bent upon itself, so that the œsophagus and pylorus lay side by side, the pylorus being a little in front and to the left of the œsophagus, where it was firmly fixed by adhesions to the upper and inner part of the ring; about one and a half inches of the pyloric extremity were free in the abdominal cavity.

At the upper inner angle of the ring only, for the space of less than half an inch, was there an hiatus in the continuous line of adhesions, which united to the margin of the ring some portion of the stomach or omentum; here there was a communication between the general peritoneal cavity and the cavity of the sac.

Upon the thoracic side of the diaphragm projected a tumor considerably larger than a fœtal head. By this the heart had been displaced somewhat, so that it lay directly behind the sternum. This tumor was composed of a sac enclosing the displaced portion of the stomach; on every side its walls merged into the diaphragm, the components of which, much attenuated, were traceable over it; the parietal pleura invested it over its whole surface; its outer surface was united to the wall of the thorax by adhesion; over its posterior half it was adherent to the base of the left lung.

Owing to the character of the omental adhesion, it was possible for more or less of the stomach to be engaged within the hernial sac at different times. At the time of the *sectio cadaveris* the entire mass of the

stomach, except the little free portion at the pylorus, was found within the cavity of the sac.

This specimen was accompanied with the following history:

Mr. R. A., aged twenty years. When eleven years of age he fell a distance of fifteen feet, and was caught by his extended arms between two joists below. He, however, suffered no inconvenience after the immediate jar of the fall had passed away, and continued to enjoy good health during the succeeding four years until October, 1873, when he suffered an attack of acute peritonitis, no adequate cause for which was then known. For three months he was very ill; ultimately recovering, he remained much enfeebled, and not until after the expiration of a year was he deemed strong enough to return to his business; during the whole of this time, however, his appetite and digestion were good. Six weeks after resuming business, immediately following the completion of a task requiring great physical effort, he again developed a peritonitis, in October, 1874; this was subdued after an illness of six weeks. From this time he suffered much from indigestion, which became aggravated during the following summer, of 1875, at which time he frequently regurgitated without effort copious quantities of fluid mixed with dark flocculent matter resembling the black vomit of yellow fever. This condition persisted in varying degree for a whole year—1876. He then began to experience continuous gastric irritability, so that nearly everything ingested was apparently soon vomited. For nearly two years longer this latter condition persisted, uninfluenced by treatment; he became greatly emaciated, but was able to feebly walk about until within a short time before death. In October, 1877, during three weeks only, he suffered from copious diuresis, but after that time no further urinary trouble was experienced. Throughout his long illness he always lay on his left side, saying that the attempt to lie upon his right side produced a sensation of drawing and constriction internally. Natural and regular movements of the bowels were usually maintained throughout. In July, 1878, he developed symptoms of phthisis pulmonalis, which rapidly advanced, and occasioned death October 19th, 1878.

Autopsy, twenty-four hours after death. Extreme emaciation of whole body.

Omentum adherent to anterior abdominal wall, and with difficulty recognizable. Old adhesions among abdominal viscera, confined to right side.

Bowels contracted and empty, healthy.

Stomach at first not visible in the abdominal cavity; duodenum traced upward, was found to be continuous with a structure which disappeared in an opening in the diaphragm; this proved to be the pyloric extremity of the stomach. By traction upon this much of the stomach was drawn

down into the abdomen; complete disengagement was prevented by adhesions at the margin of the diaphragmatic opening; detailed description of the relations of these parts given above.

Liver somewhat enlarged, presenting gross appearances of fatty degeneration; upper surface of right lobe largely adherent to diaphragm by old and dense adhesions; the small portion of the tunic of this part of the organ not thus adherent was thickened and opaque. These appearances of old peritonitis abruptly terminated at the free border and at the line of attachment of the falciform ligament; tunic of left lobe normal.

Spleen small, and firmly adherent to diaphragm.

Pancreas enlarged.

Mesenteric glands very small.

Kidneys—right, normal; left, cirrhotic.

Heart normal; displaced to the right by the hernial sac.

Lungs.—Both extensively infiltrated with caseous material; numerous vomicæ, of which those at the apices were large; pleuræ adherent at apices on both sides; pleura over posterior half of the base of left lung adherent to hernial sac.

Remarks.—This case possesses great interest, for two reasons. 1st. Its rarity. Here is a perfect and unmistakable example of a protrusion of an abdominal viscus into the thoracic cavity, enclosed within a sac formed from the peritoneum and parietal pleura, *hernia diaphragmatica vera*—a condition so rare that its possibility even has been questioned.

Leichtenstern, in Ziemssen's Med. Encyclop. (Wood), Vol. VII, p. 553, gives statistics of 252 cases of diaphragmatic hernia, by far the largest number yet collected, he says; these are from English, French and German sources; of this number but 28 are claimed as cases of *herniæ veræ*, the remaining 224 being cases in which, by rupture or deficiency of the diaphragm, some of the abdominal contents lay free in the thoracic cavity—*herniæ spuriæ*.

2d. The difficulty of diagnosis.

Of the 252 cases of all kinds already referred to, in but five was a diagnosis made.

In the present case the patient, during his long illness, was at different times examined by ten different physicians; by none was the true character of the case suspected. It is difficult even now to satisfactorily explain the case.

The initial lesion must have been produced by the fall when he was but eleven years of age, the displacement at the time, and for years after, not having been great enough to occasion trouble.

The evident localization of the inflammation upon the right side, as evidenced by the isolation and massing of the adhesions upon that side

(they were traceable beginning in the pelvis, where the end of the ilium was adherent to its right wall, along the ascending colon, to the right lobe of the liver, to the falciform ligament, where they abruptly stopped) —results, I think, of the first attack—leads me to believe that the first attack of peritonitis was independent of the hernia. The second attack was different; this was evidently the result of the physical effort, running, before mentioned. May there not have been a sudden aggravation of the hernial protrusion produced by this? Note that from this time his dyspeptic symptoms date. A state of semi-strangulation of a part of the stomach wall in the diaphragmatic opening may have been induced; the starting-point of the second attack of peritonitis, by which the adhesions of the stomach to the neck of the sac, and the gluing of the spleen and of the great omentum to the abdominal parietes, may have been occasioned. By the irreducible hernia of the stomach thus produced all the subsequent symptoms were occasioned.

Ἀσκληπιὸς ὁ Σωτὴρ

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——YELLOW FEVER FUND.—The following letter of acknowledgment has been received:

Memphis, Tenn., Nov. 27th, 1878.

ALEX. HUTCHINS, M. D., *Prest. Med. Society, Co. of Kings, Brooklyn, N. Y.*

MY DEAR DOCTOR:

Your favor of 20th inst., inclosing certificate of deposit for $547, payable to my order, is just to hand.

My having been absent from home for the past ten days will, I hope, explain the unreasonable delay in making this acknowledgment. In the name of the Shelby Co. Med. Society, and on behalf of the suffering families of our fallen comrades, allow me to return sincere thanks to your Society for this substantial evidence of your sympathy.

In the distribution of this fund I shall be guided by the expressed wishes of your Council, and shall in each instance advise with the President of our County Society. So soon as the fund is distributed I shall communicate to you such facts concerning its distribution as I may think of interest to you.

In conclusion, allow me to assure you that this aid comes in a day of need, and will be keenly appreciated by the widows and orphans of our heroic brothers who fell at their post of duty, nobly battling with an unseen foe. With high regard I am,

Very truly yours,

HEBER JONES, M.D., *Sec. Shelby Co. Med. Soc.*

——SOCIÉTÉ FRANCAISE D'HYGIÉNE.—At the séance of this Society of the 8th of November, 1878, DR. R. M. WYCKOFF, of Brooklyn, was nominated as one of the MEMBRES ASSOCIÉS ETRANGERS.

——THE READING-ROOM OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.—Voluntary subscriptions have been the support of the Reading-Room. Members will please recall that it is needful that their subscriptions should be sent in early.

——TEA AND BREAD AND BUTTER.—At the late Social Reunion it was suggested that it would be a pleasant departure to have a light collation after the arduous duties of the Annual Meeting. One of our members says that he attended several of the meetings of the medical Societies of London last winter, and after the session, which closed by limitation at a prescribed hour, tea and bread and butter were served in an adjoining room. He says, also, that he attended the Brompton Hospital for Consumptives, with Dr. Pollock, the physician-in-chief, and, after the rounds of the wards, tea and sandwiches were served. This is the invariable custom in that institution. It is proposed to serve this light collation after the Annnal Meeting, on the evening of January 21, adding, once again, the sympathetic and social to the executive element.

——THE SECOND ANNUAL SOCIAL GATHERING of the Medical Society of the County of Kings was held on the evening of December 3d, in the Library and Reading-Room. The occasion was, like its predecessor, of unusual interest in bringing together so large a number of the medical men of the city on purely social terms, and in renewing old and forming new acquaintanceships. After the service of an entertainment, provided by the PROCEEDINGS FUND, informal and pleasant words of greeting were spoken by Drs. Armor, Burge, Walker, Raymond, Bell, White, Pilcher, Rushmore, Johnson and Sherwell. The usefulness of the READING-ROOM, the advantages provided by the publication of the PROCEEDINGS, the harmony existing among medical men in this city, the concentration of medical enthusiasm in the work of the COUNTY SOCIETY, and the repeated pledges of earnest effort in behalf of the Society, were especially alluded to. It happened that, on that same evening, the Medical Reading-Room in Boston was holding its inauguration exercises, and the following telegrams were interchanged:

J. R. CHADWICK, M.D., *Brooklyn, Dec. 3, 1878.*

The Medical Journal Association of Kings County, now holding its Second Annual Festival, sends its greetings and sincere congratulations to the Boston Medical Library Association.

R. M. WYCKOFF, *Secretary.*

DR. R. M. WYCKOFF, *Secretary*, 398 Fulton St. *Boston Dec. 3, 1878.*

The Boston Medical Library Association, met for the first time in its new Hall, now listening to Dr. Billings, the Librarian of the National Medical Library at Washington, sends its responsive greetings to the Kings County Medical Journal Association.

OLIVER WENDELL HOLMES, *President.*

This effort of the Council to promote a mutual acquaintance among the members of the Society received so many and so hearty congratulations that it is hoped future Councils may have it in their power to continue these annual social gatherings, so auspiciously begun one year ago.

——DR. SKENE'S NEW BOOK *(Diseases of the Bladder and Urethra in Women)* has the rare merit of being a discussion of a special subject, untainted by any intrusion of the specialist. For this, all praise. To master the intricacies of a particular range of investigation by personal inquiry and the comparison of allied observation, and to formulate these results in comprehensible English, unmixed with the needless jargon of the specialist, and unsoiled by the implied importance of the author to the subject he relates, is praiseworthy, but so rare as to be notable. In this book there is no suggestion that in their bladder and urethra is to be found the final cause of the complex tangle of disorders that environs Eve's universal daughterhood, and that the passage through the labyrinth is by the car routes that pass within easy walking distance of the author's door. So conscious of this is the reader, that he reads with refreshment and breathes easily at the end. He finds himself *en rapport* with the latest contrivances in a form suited to his own manipulation, and is not simply wonder-stricken at an exposition of elegant machinery, whose motive power is concealed under some personal patent or prerogative. Beyond the statement that, as a systematic treatment of the subject, the book occupies a hitherto vacant niche in medical literature, it is not our province to speak. Proliferations are not reviews. It is a satisfaction to know that the first formal presentation of this subject in English should be pervaded by so catholic a tone, and should be the work of a member of this Society.

——DALTONISM, CHROMATOPSEUDOPSIE, ACHROMATOPSIE, COLOR-BLINDNESS.—Dr. Wilson, of Edinburgh, found 5.6 per cent. of 1,154 persons color-blind; and Dr. Jeffries, of Boston, 5 per cent. of 611 students of Harvard. M. A. Fabre asserts that in France more than 3,000,000 persons are affected with Daltonism.

——BOGUS NEW REMEDIES.—Dr. W. P. Gibbons (*Pac. M. and S. Jl., Oct.*) "goes for" certain new Californian drugs which have been largely advertised—*e. g.*, Yerba Santa, Yerba Reuma, Cascara Sagrado and Grindelia Squarrosa. They were brought forward by a "Dr." I. H.

Bundy, whom Dr. G. says is not a member of the profession, and whose sleeve is stuffed full of fluid extracts, and the same with intent to deceive. Dr. G. is a thorough botanist, and is able to make a complete exposé of this new enterprise.

——Colic may be promptly cured by standing the patient on his or her head. So says Dr. D. L. Phares in the *Miss. State Med. Trans.* Of course this treatment will be of permanent advantage only in spasmodic or flatulent colic, and not where it is due to structural changes.

——Another Matter in which postural treatment has many advantages, is the hanging down of the patient's head over the edge of the operating table when operations are done in the mouth, face and jaws. Certain dangers from the gravitation of blood into the air-passages are thereby avoided. Wolff does tracheotomy in this posture. So far from being dangerous during the action of chloroform, it is supposed to offset the anæmia of brain caused by drugs.—Wolff, *Sammlung Klin. Vort.*, J. C. Warren, *Boston M. and S. Jl., Oct. 24th.*

——"As the old Laws" of the State of New York, "requiring every physician in good standing to become a member of his county medical Society, have not been repealed, it is, as it always has been, the *duty* of every such physician to obey the law; and as the penalty for non-compliance has been removed by law, it becomes *a point of honor* for every regular physician to do so. The Presidents and officers of every county Society in the State are requested to use their best efforts to have these laws complied with."—*By-laws of the Med. Soc'y of the State of N. Y.*

——Dr. Gray, 172 Clinton St., desires it to be known that any member of the profession having a case of brain tumor, would confer a great favor by permitting him to examine it with his cerebral thermometric apparatus. Dr. G.'s investigations upon this subject are detailed in Aug. number of the N. Y. Med. Journal.

——Dr. P. R. Cortelyou, our late fellow member, is permanently settled in Atlanta, Ga. Residence, 12 Wheat Street, and office, 40 Marietta Street.

——Transactions of the American Gynecological Society. Volume 2, for the year 1877.—This portly volume, of nearly 700 pages, has just been received. Representing, as it does, the latest outgivings of the practitioners engaged in this special department of medical learning, it is an exceedingly valuable contribution to medical knowledge. The old style type, the tinted paper, with *the Riverside Press* imprint, render it an *edition de luxe.*

——Puerperal Convulsions.—"The use of tartar emetic I have abandoned almost entirely. There are several other ways of treatment worthy

of some consideration, in which I have had no experience. One is the use of veratrum viride in prodigious doses, called '*the Brooklyn treatment,*' because first inaugurated there. In this method of treatment, they have been in the habit of giving large doses—doses that would frighten any man in this room—teaspoonful doses of veratrum extract they give their patients. And what is remarkable about it, they have had most astonishing success. Now I can easily see how, if you rely on a suspension of the causes of the convulsions, this might work; I cannot explain it in any other way than that it acts on the nerve-centres, and thus produces a cessation of the convulsions."—Southern Mich. Medical Association. Prof. E. S. Dunster. *Toledo Med. Jl.*, Sept.

——Tapeworm may be killed in an hour, says Dr. Betelheim, of Vienna. Make a very concentrated decoction of pomegranate root, and administer from 200 to 400 grammes by means of an æsophageal tube; patient having fasted for twenty-four hours. The worm is stupefied, and is expelled, head and all, in an hour or two. The drug causes no sickness and nausea. It is cheaper than kousso and kameela.

——Adulteration.—Even the bees themselves may be made the agents of honey-adulteration. A resident of Flatbush has discovered that glucose, the very substance alleged to be employed by sugar-refiners in their industries, may be fed to bees, and thus used to adulterate the honey in the comb, before industrious man has a chance at it. The busy bee is said to be quite partial to glucose, although it can scarcely be the appropriate article for his sustenance—a case of depraved instinct, reminding of the cows who are said to refuse to eat hay, grain, etc., when once they have created a taste for distillery swill.

——Chloramyl, the name given to a mixture of chloroform, 1 lb., and nitrite of amyl, 2 drachms, is recommended as a new anæsthetic by Dr. G. E. Sanford, in the *Medical Record.* He claims for it a trial, on the ground of its safety as well as efficiency, the amyl antidoting the syncopal action of the chloroform, while not modifying its anæsthetic properties.

——Medical Women.—The first step was taken in Boston, in November, 1848, with twelve female students in the first class of the first medical college for women in the world. In 1870 there were 525 women practicing in the United States.

——The Public Health Association recently held a four days' convention at Richmond. Its doings appear to afford very little satisfaction. Too much time was taken up with wearisome details, and with a patriotic, though mistaken, defence of the Southern cities against the charge of being filthy and unsanitary.

——Transactions of the American Medical Association, Vol. 28.—A portly volume of nearly 700 pages celebrates the Chicago Convention of July, 1877. It is one of the most valuable of the series that have yet been printed. Seldom has a volume more good names among its contributors than this. There are papers by Bowditch, Kimball, Martin of the Eastern States; by Seguin, Bozeman, J. P. White, Sayre, Bell, Gross, E. M. Hunt, Bulkley, and Benj. Lee of the Middle States; by Cobell, Hodgen, Andrews, Davis, Palmer, Comegys of the South and West. By some strange process, the editors have perpetuated the error in the President's Address, when he speaks of Caldwell as "our great, first ovariotomist"—a slip of the pen for McDowell.

——The Alcohol Question.—The *Popular Science Monthly Supplement*, for December, has a "Symposium" by three of the most competent of modern physicians: Sir James Paget, Dr. Lander Brunton and Dr. Bernays. The moderate use of alcohol appears to have the best of the argument.

——The Bibliotheca Medica: Robert Clarke & Co., Cincinnati, O., pp. 244. 1878. Price 25 cents. This is the most serviceable medical catalogue we have seen. It embraces the books of various publishers, and the journals of two continents. Unfortunately, the term "Allopathic" is used to designate the journals of the regular profession. When will sensible people learn to discard this meaningless and misleading term? We would just as soon be known by the name used by a little boy, the other day, when asked what kind of a physician a certain gentleman was. He said he had heard that he was an "allapaca" (alpaca) doctor. We are simply physicians; no adjective is needed in ordinary circumstances; when a catalogue is to be made up, we would prefer the adjectives "regular" or "rational" as the distinguishing term.

——The Scientific American is one of the most interesting of our exchanges; it occasionally dips into medicine, and when it does so one is inclined to believe that its editor is a medical man. It has little sympathy for pretenders in our art, and a short shrift for nostrum-venders. May its shadow never be less. Munn & Co., publishers, 37 Park Row, N. Y. City. Price $3.20 per annum.

——Physicians' Day-Book, prepared by the versatile and industrious Dr. Leonard, of Detroit, has been received too late for earlier notice. It is a promising candidate for medical favor, in a field where there are already numerous entries. The book may be purchased of Warner & Haight, 124 Atlantic Ave.

——The Lancet Reprint, published in New York, announces that hereafter each monthly issue will contain twelve additional pages o

reading matter. Every issue contains two or more lectures, by the best medical men of the English Metropolis.

A YOUNG PHYSICIAN, single, with one year's hospital experience, and three years' practice in the country, and now attending at the College of Physicians and Surgeons, N. Y., will be pleased to communicate with any physician (of this, or some eastern city), who, for any reason, desires an assistant or partner. Address *Medico*, Everett Hall, 398 Fulton Street.

——DEATH FROM CHLOROFORM need never occur, according to the doctrine of Syme, Lister and Hughes, if this simple rule be observed: "Never mind the pulse, never mind the heart, leave the pupil to itself. Keep your eye on the breathing; and if it becomes embarrassed to a grave extent, take an artery-forceps and pull the tongue well out." Syme never lost a case from chloroform, although he gave it five thousand times; this simple rule enabled him (so he thought) to make this excellent record.—*Lancet.*

——NITRITE OF AMYL.—Testimony is accumulating in favor of amyl as a prompt and valuable *cardiac stimulant* where quick action is needed. Unfortunately, however, too many physicians are afraid of this useful preparation, notwithstanding it has never done harm, even when inhaled in half-drachm doses.—*Louisville Med. News.*

——BALATA is the name of a new gutta-percha. It is obtained in tropical South America, in a manner similar to that used in the case of india-rubber. Its qualities appear to lie midway between those of rubber and gutta-percha. It is said to possess an agreeable odor.

——THE FALL OF HOMŒOPATHY.—From the *Homœopathic Times*, the leading journal of that so-called school of medicine, the following admission of progressive decay is taken:—"After a careful examination of the most recent sources of information, we are forced to the conclusion that there is, in all probability, *a gradual decrease* in the number of homœopathic practitioners, and, if not an actual decrease, that the ratio of increase is far below that of the population in this country."

——THE PROSCRIPTION and intolerance is just as great among those who believe little or nothing, as among the orthodox, who can swallow the thirty-nine articles and hunger for more. There are scientists who take delight in presenting the facts of science in such a way as to excite the antagonism and stir up the prejudices of the religious world. Not only has this course of action no essential relation to science, but it is gratuitously discourteous and offensive to many worthy people, and detrimental to the progress of the truth.—*Pacific Med. Jl.*

Medical Society of the County of Kings.

58th ANNUAL MEETING, JANUARY 21st, 1879.

LIST OF NOMINATIONS FOR OFFICERS AND DELEGATE.

By-Laws, Chap. 1, Art. 5.—Nominations for Officers and Delegates shall be made at the December meeting. The Secretary shall have the names of all nominees printed on slips of paper, two of which shall be sent to each active member.

☞ In voting, use the slip as a BALLOT, after having drawn a line through the names of those nominees for whom you do NOT wish to vote.

For President.

Dr. E. S. BUNKER, Dr. J. S. PROUT.

For Vice-President.

Dr. H. L. BARTLETT, Dr. C. JEWETT, Dr. L. S. PILCHER.

For Secretary.

Dr. WYCKOFF.

For Assistant Secretary.

Dr. J. H. HUNT, Dr. N. B. SIZER.

For Treasurer.

Dr. J. R. VANDERVEER, Dr. W. WALLACE.

For Librarian.

Dr. B. EDSON, Dr. T. R. FRENCH.

For Censors [five in number.]

Dr. BAKER, Dr. R. G. HESSE, Dr. C. JEWETT, Dr. POTTER,
" EVANS, " HUTCHINS, " PILCHER, " ROCKWELL,
Dr. RUSSELL, Dr. SEGUR.

For Delegate to the N. Y. State Medical Society.*

Dr. PILCHER, Dr. RUSHMORE, Dr. WALLACE,
" RAYMOND, " STUART, " WESTBROOK.

**By-Laws, Chap. XI, Art. 2.*—Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate.

The President requests the following members to act as TELLERS:

Dr. COLTON, Dr. GRIFFITHS, Dr. MARTIN,
" EMERY, " HARVEY, " ROCHESTER.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M. on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The Annual Meeting will be held on January 21st, at which time there will be presented the following papers:

Dropsy of the Amnion, by Dr. G. G. Hopkins. (Read by title.)

Regulation of Teeth Made Easy by the Positive System, by Dr. J. N. Farrar. (Read by title.)

Report from the Committee on Hygiene, by Dr. T. P. Corbally. (Read by title.)

Election of officers of the Society for 1879.

Reports of Council, Treasurer, Librarian, and Standing Committees.

Following the practice of some of the English Societies, a light collation will be served at 10 o'clock.

——New Members.—At the December meeting Dr. Wm. A. Little, 682 Myrtle Avenue, graduate of the University of N. Y., was elected a member, and Dr. G. R. Westbrook, of 259 Dean Street, was proposed for membership.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

OFFICERS AND COMMITTEES FOR 1878.

President.....Alex. Hutchins, M.D., 796 De Kalb Ave.
Vice-President.....C. Jewett, M.D., 310 Gates Ave.
Secretary.....R. M. Wyckoff, M.D., 532 Clinton Ave.
Assistant Secretary.....G. A. Evans, M.D., 449 Bedford Ave.
Treasurer.....G. G. Hopkins, M.D., 375 Grand Ave.
Librarian.....W. H. Thayer, M.D., 171 Livingston St.

CENSORS.

J. D. Rushmore, M. D., (Senior Censor), G. W. Baker, M. D., R. M. Buell, M. D., J. H. H. Burge, M. D., F. W. Rockwell, M. D.

DELEGATES TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(1878 to 1882.)

Drs. J. C. Shaw, S. G. Armor, R. M. Wyckoff, Drs. A. J. C. Skene, G. G. Hopkins, A. Mathewson, Drs. E. N. Chapman, J. S. Prout, F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

COMMITTEES OF THE SOCIETY.

HYGIENE.

Drs. F. H. Stuart, T. P. Corbally, J. Walker, W. E. Griffiths, J. H. Hunt.

REGISTRATION.

Drs. C. H. Giberson, W. E. Griffiths, J. A. Jenkins, Drs. W. G. Russell, N. Matson, F. W. Rockwell, Drs. R. M. Buell, R. W. Wyckoff,

PUBLIC INSTRUCTION.

Drs. A. J. C. Skene, C. L. Mitchell, E. R. Squibb, J. T. Conkling, J. C. Hutchison.

PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

PROCEEDINGS

OF THE

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, JANUARY 21, 1879.

CASE OF DROPSY OF THE AMNION.

BY G. G. HOPKINS, M.D.

Mrs. ——, aged 32; fifth pregnancy; expected to be confined early in January. She had been in almost constant suffering since the middle of July, when she went to Coney Island to see the fireworks. In trying to get to the cars to come home she was pushed by the crowd against an iron bar, and forcibly held there for some time, the iron pressing her across the abdomen.

The 18th of November she sent for me, and she was then as large as a person at full term; there was also fullness about the ankles, but no trace of albumen in the urine.

I did not see her again until the 9th of December, and she was then so large and suffering so much that I suspected there might be a superabundance of amniotic fluid—her friends said twins.

I determined to bring on artificial labor. The next day, at 12 M., I began my efforts in that direction, and a digital examination slightly dilated, though not sufficient to admit my index finger, but I readily succeeded in forcing my finger through the os and separated the membranes for two inches all round. I then waited ten minutes, and finding no pains were produced, introduced the nozzle of a Davidson's syringe through the os and threw in about half a dozen bulbs full, after

waiting fifteen minutes for pains, which did not come; and satisfied that there was a large amount of fluid in the womb, I ruptured the membranes, which was done with much difficulty, as these were very thick. A gush of water came, such as I had never seen before, saturating everything on the bed, notwithstanding it had the ordinary protecting rubber; shortly after another gush, which ran off in streams from the bed, filling two large chamber vessels which I pushed under the side of the bed; a third gush, and the carpet and several sheets that had been put down to absorb the water were soaked. I then introduced my hand into the vagina, and in five minutes succeeded in getting into the cavity of the womb, and found the fœtus floating in sufficient water to be readily movable. I first came in contact with an arm, but it was so thick that I could hardly meet my fingers about it, and was only three inches in length. I here found the legs, which were equally short and fat. I made podalic version, and delivered without difficulty a monstrosity with a very large head and a fully developed body, but deformed in all four extremities, weighing about ten lbs.; the placenta separated and was delivered in about ten minutes; the womb contracted perfectly, still she said she had no pain during her whole labor. I administered a drachm of Squibb's fl. ext. Ergot, by way of precaution, but it produced no unpleasant after pains; there was very little flow; she had never had so little after any confinement.

She made a good recovery, and sat up on the twelfth day, and on the thirteenth was carried down stairs.

——An Adage from Italy tells us that "Where the sun does not enter the doctor does."

——"If we want to preserve lives that are dear to us, and to keep the trade which is the *life* of our city, we must make health *as much a matter of study* as the market prices of current staples."—*Memphis Appeal.*

——The Yellow Fever Epidemic of 1878 will be memorable for the great slaughter it occasioned; 20,000 were left dead on the field of that great battle. Over one hundred of these victims were physicians. Its cost to the country has been estimated all the way from 12,000,000 to 200,000,000 dollars.

FUNDAMENTAL PRINCIPLES OF THE POSITIVE SYSTEM OF REGULATING TEETH.

BY J. N. FARRAR, M.D., D.D.S.

Mechanical appliances now used for correcting irregular teeth are constructed upon two principles, known as the Probable and Positive Systems, so called because one is sure in its action, while the other, owing to the nature of the mechanical principles involved, though probable, is more or less uncertain. These two systems are not only based upon mechanical principles peculiar to each, but have also important individual bearings in regard to physiological law.

The Probable System has for its basis the use of apparatus so constructed and operated by springs and elastic rubber, that a constant and continued force is maintained, the management of which is not only generally beyond the control of the patient, but as it is exceedingly difficult, if possible, to harmonize with physiological principles underlying the operation of moving teeth, it is apt to lead to inflammation, pain and exhaustion.

The Positive System consists in the use of apparatus constructed on positive principles of mechanical actions in such manner as to act intermittingly, permitting definitely, at will, the application of any degree of force desired, and is not only generally under the control of the patient, but can be operated perfectly in harmony with the principles of physiological law, thus obviating inflammation, pain and exhaustion.

This intermittent principle of action may be proximately attained by the use of the old and well-known wooden wedge, peg set in a plate, "inclined plane," or metal occasionally bent; but better still, and more scientifically, by means of an instrument which has been in limited use by the profession for such purposes for many years, *the screw*, because more positive and exact motions can thereby be depended upon.

This classification of systems grew out of "an inquiry into physiological and pathological changes in animal tissues during the process of regulating teeth," involving a long series of original experiments leading to the discovery of the importance of conducting such operations in accordance with the principles of physiological laws, and to the knowledge of what seems to me to be the best method of conducting them.*

* The result of these experiments was made known to several professional gentlemen in 1873, in a paper which, in February, 1874, was used as a thesis at graduation at Jefferson Medical College, read before the Brooklyn Dental Society, April 12th, 1875, published in the *Dental Cosmos*, Jan., 1876, and subsequently further elaborated in several papers in the same journal.

This process of movement of teeth in the jaw is not necessarily "a pathological one." While the movement of a tooth by artificial means involving pain, inflammation and exhaustion is clearly indicative of the presence of a pathological condition of the tissues, the unconscious natural movement of teeth caused by improper articulation in overcrowded arches, accompanied with *no* pain or inflammation, is equally clear proof that the tissue changes have been carried on under physiological conditions.

Absorption and reformation of tissue (the necessary changes before and behind a migrating tooth), therefore, may take place under physiological as well as pathological conditions, the physiological process being painless, and the pathological generally being accompanied with pain and exhaustion. Experiments also prove that physiological changes may be induced by mechanical appliances as well as by natural causes, if conducted properly.

While perverted physiological action, indicated by pain, inflammation and exhaustion, is generally the result of such continued force as is practicable by art, and even by too great a degree intermittently applied, this condition may be avoided by the application of intermittent force of a proper and definite degree, alternated with proper intervals of rest—a principle which, in some respects, is analogous to the law of "labor and rest" in general life.

Referring those who are curious to know the minutiæ of these experiments to the above-mentioned paper, I will state that the basal principles of harmony between mechanical and physiological laws underlying the Positive System of treatment may be summed up in brief as follows:

While a continued force, mechanically applied, with no intervals of rest, or even intermittent forces of too great a degree, or too frequently applied, will tend to overstep the boundaries of physiological action and lead to a pathological condition accompanied with pain,

THE LAW.

Animal tissues may be made to become painlessly absorbed at will by mechanical pressure of a definite degree (suited to the tissue acted upon), if made in harmony with tissue changes while in a physiological condition, attained by the force being periodically applied and maintained when once made, and intermitted by proper intervals of rest, which may be accomplished, for illustration, by the use of the screw; thus enabling the tissue changes to be confined within physiological action.

The dividing line between physiological and pathological changes in the tissues of the jaw is found to lie within a movement of the teeth acted upon, allowing a variation, which will cover all cases, not exceed-

ing one two-hundred-and-fortieth to one one-hundred-and-sixtieth of an inch, and made about every twelfth hour; the exact degree of which can be best determined by the patient.

Illustrative of the Positive System, I give the following case:

A TOOTH IN AN ABNORMAL POSTURE DRAWN FROM THE DEPTHS OF THE JAW.*

This case, which is in some respects especially interesting, has been longer under treatment than would have been necessary under more favorable circumstances, owing to the patient's having been absent from home for long spaces of time, necessitating delays beyond my control. Still the complete, painless success, thus far, is remarkable, as illustrative of the value of regulating teeth in accordance with physiological laws,† inasmuch as it shows that a tooth may be painlessly drawn from abnormal positions in the depths of the jaw, and brought into its proper position in the arch without rupture of its nutritive connections.

The patient is a healthy lady, twenty-four years of age, of nervo-sanguine temperament, large stature, full features, and moving in fashionable circles of society.

The two upper temporary cuspids (discolored) were yet somewhat firm in the jaw. The left permanent cuspid had erupted between the temporary one and the first bicuspid, which had crowded the left lateral incisor so out of position that it not only lapped over the adjoining central, but it had also rotated in its socket, so that it stood partially edgewise to the front. On the opposite side the permanent cuspid had not made its appearance, but high up under the lip there was a small tumor, which indicated the place of the missing tooth. The temporary teeth were extracted in order to liberate the imprisoned and overcrowded permanent teeth; the left permanent cuspid was drawn back by means of a device similar to the one shown in the cut on page 20, *Dental Cosmos*, January, 1876. Room was thus secured for the liberation of the lateral incisor, which was subsequently rotated nearly into position by means of a box-wrench, similar to the one illustrated in the *Dental Cosmos* for October, 1877. A curve in the root causing it to lap over the root of the central incisor prevented its being further rotated. There was then left only the right upper cuspid to be dealt with. For the sake of personal appearance it was very desirable to have the dental arch complete, either by the insertion of an artificial tooth or by compelling the natural one to take its proper position. Although this tooth was twelve years overdue,

* For the cuts for the following illustrations we are indebted to the courtesy of the editor of the *Dental Cosmos*, J. W. White, M.D., D.D.S.

† See *Dental Cosmos*, January, 1876, p. 13, for an exposition of these laws, as determined by experiments by the author.

it was hoped that, after the extraction of the temporary one, it would gradually come down into its proper place; but after the lapse of several months, with no sign of its doing so, I determined, if possible, to compel it to move. Having been successful several years before in a similar though less marked case, I made an incision through the gum over the small tumor under the lip, and found the point of the delinquent tooth slightly protruding through the outer plate of the alveolar process, at a point about five-eighths of an inch above the cutting edges of the bicuspid and lateral incisor.

Dissecting away a small piece of the alveolar process, the position of the tooth was found to be about forty-five degrees out of the normal perpendicular, with the crown pointing in the direction of the angle between the ramus and the body of the lower jaw. The tooth had also rotated about ninety degrees upon its long axis, so that, if drawn down into its proper place, it would stand edgewise. It was evident that the abnormal position and posture of this tooth was the reason why it had not erupted. It had become fully developed in this position, and could not change its place. It had grown old in its prison, and become reconciled to its home. The appearance of the jaw containing the delinquent tooth may be clearly understood by reference to Fig. 1.

Having dissected away the alveolar process so as to expose about one-sixteenth of an inch in width, extending from the point to midway of the crown of the tooth, a pit was drilled into the enamel at a distance from the cutting-point of about one-half the length of the crown.

Fig. 1.

Sketch of the position of the tooth.

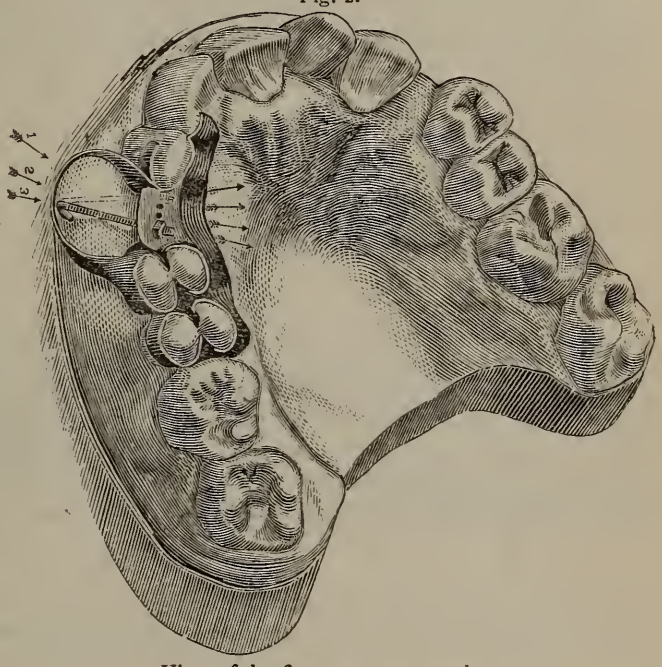
A skeleton apparatus was fitted to the case, as shown in Fig. 2.

Although the apparatus fitted closely the gum and teeth everywhere else, the plate was shaped so as to bridge the gap between the first bicuspid and lateral incisor on a plane with their cutting edges. In the middle of this bridge was a hole, through which passed a screw-cut wire hook for insertion into the pit made in the crown of the tooth, which, by means of a nut on the lower side of the bridge, was made to draw upon the tooth. In order to prevent the skeleton plate from rocking, an arch

of gold was made to extend from the plate up as high as the pit in the tooth, in order to rest against it and to assist in forcing it down and in.

Everything being in position, a key fitting the nut was given to the patient, with instructions to turn the nut slightly every morning and evening, and to see me once a week.

Fig. 2.

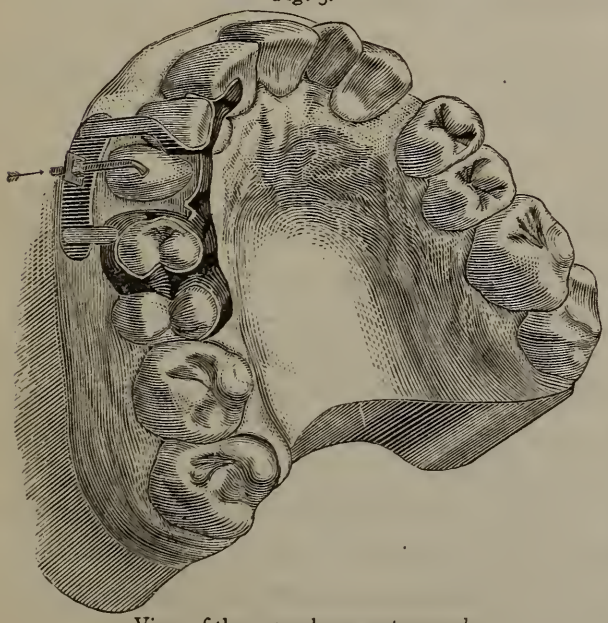


View of the first apparatus used.

Gradually the tooth was moved outward and downward, following a curve shown by the dotted line in Fig. 1, due to an occasional change in the position of the hole in the bridge and in the line of draught, until the point of the crown had moved about half an inch, was against the bridge, and within about one-twelfth of an inch of its proper position.

At this period in the operation the screw-hook had become "fed out;" the bridge could not be arched downward any more without preventing occlusion of the jaws. The apparatus was removed, and a different fixture made, which, instead of drawing downward, operated by pushing, by means of a bent screw advanced from a nut situated above the tooth, as shown in Fig. 3.

Fig. 3.



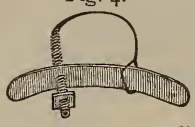
View of the second apparatus used.

This apparatus differed from the other in having no bridge; a plate pad, with two upright pieces extending from the fixture, afforded a broad surface to rest against the gum, in order to prevent injury. To this pad was soldered a smooth nut, through which passed a bent screw,

the lower end of which entered the pit in the tooth, which, by means of a threaded nut, was made to advance downward. The tooth yet requires to be rotated before the operation will be complete.

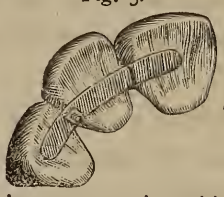
Teeth drawn from the depths of the jaw may be easily retained in place by a delicate apparatus, as shown in Fig. 4—a gold band, one-

Fig. 4.



Retaining apparatus (two diameters).

Fig. 5.



Retaining apparatus in position.

twelfth of an inch wide, as thin as paper, and made to bind by means of a little screw and nut to a small cross-bar of plate, about one-tenth of an inch wide, and of the thickness of ordinary gold plate, which should be just long enough to rest firmly in some sulcus and over the lingual plane of the adjoining teeth, as shown in Fig. 5.

VACCINATION, RE-VACCINATION AND INFECTIOUS-DISEASE HOSPITALS.

REPORT OF THE COMMITTEE ON HYGIENE, OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A feeling of fancied security usually follows the disappearance of a dreadful epidemic, and of no disease can this be said with greater truth than of small-pox. The profession, as well as the public, are apt to neglect the teachings of experience; they forget that, at an uncertain period in the future, the disease will certainly return; and they forget that, during its prevalence, the best directed efforts relieve only individual cases. We know not when it is coming, nor what brings it; we know not why it assumes a mild or a malignant type during its progress; we know not why it goes nor how long it will remain away. The next epidemic may be a very mild one, or it may be the most terrible we have yet seen. How necessary, then, to anticipate its return, and to employ every means to render the attack as mild as possible.

There are two important questions to be considered:

1st. The means of prevention;

2d. The management of the disease.

Small-pox is the most active and the most virulent of contagions, and, when not controlled, it is the most terrible scourge that has afflicted the human race. In 1796 it caused more than 26,000 deaths in Prussia, and about 15,000 in Sweden. In 1856 it destroyed more than 100,000 lives in Russia; and Dr. Morache, who spent seven years in Pekin, as surgeon to the French legation, says that, of every three persons one meets, one may be considered free from all trace of the disease, another slightly marked, and the third terribly disfigured. In Russia and in China vaccination is not general. In Germany, Ireland and other countries in which statistics are kept, about 10.5 per cent. of the cases of blindness is caused by small-pox.

Vaccination is the only means of prevention.

In France, from 1816 to 1841, of 5,963 cases, in persons vaccinated, there were only 62 deaths, or 1 per cent.; and of 10,434 non-vaccinated cases, 682 died, making 16 per cent.

In Würtemberg, of 5,629 cases, in persons who had been vaccinated, 200 died, 3.5 per cent.; and of 629 cases in persons who had not been vaccinated, there were 425 deaths, 67.5 per cent.

In Copenhagen, in 1823–4, of 659 cases in persons who had been vaccinated, only 5 died, 0.75 per cent.; and of 158 non-vaccinated cases, 35 died, 22 per cent.

Opinions differ as to the age at which children should be vaccinated. Dr. Jerome Walker thinks it should be done before the child is three months old, because then the child sleeps more, lies more quietly, and there is less tendency to irritate the arm. Some German writers recommend that it be done between the second and the third month.

Vaccination seems to exclude other diseases. In Würtemberg, during five years, there were 325,646 births, of which number 208,322 were vaccinated. It has been assumed that *three weeks* is the average period during which the system is under the influence of the vaccine element. Of the number vaccinated, there were but 70 deaths during those three weeks; that is, one death in 3,000, while 35 would be the average number of deaths during the same number of weeks in children under one year. During the first three years, the deaths would be 1,000, or twenty for the three weeks, instead of *one*. Then, in children under one year, the death-rate, during the three weeks, is 35 times less than if the child were not under the influence of the vaccine, and under *three* years of age the average is *twenty* times less under similar circumstances.

But our *whole duty* is not performed when we vaccinate the infant and then abandon it. Shortly after the discovery of vaccination, persons were inoculated after having been vaccinated, and as it did not take, it was too hastily concluded that vaccination afforded permanent immunity. This

opinion has been proved to be erroneous. It is assumed that whenever the vaccine virus will take that small-pox may be taken.

In 1837, 47,258 soldiers were re-vaccinated in the Prussian army, of which number 21,308, or 45 per cent., were successful.

Of 11,548 re-vaccinations in Würtemberg, 4,052, or 35 per cent., were successful.

Dr. Wendt, director of the small-pox hospital in Copenhagen, re-vaccinated 3,964 persons, of which number 2,756, or 69 per cent., were successful.

Dr. J. G. Wilbur found, in the U. S. Army General Hospital at Restville, Massachusetts, containing 1,200 beds, one case of small-pox. The patient died in three or four days after seizure, but no other case occurred. The men were all old soldiers who had been vaccinated.

Again, at Lafayette Square, in Baltimore, Maryland, the barracks was in the form of a square ; the men, to the number of about 1,000, occupied three sides, and the officers the fourth. The hospital was directly in front of the officers' quarters. One man who was taken with small-pox was sent away, and died. His bunk-companion did not take the disease. One or two other cases occurred, but the disease did not spread; the men had all been vaccinated.

Dr. W. relates another case, in striking contrast with the above: in the field, in 1863, among the 20th Maine Regiment, who were not vaccinated, an epidemic of small-pox broke out, and was so fatal that the regiment had to be separated from the rest of the division.

A similar circumstance occurred during the siege of Paris. The disease had nearly disappeared, but on the introduction of recruits from the western provinces, who had not been re-vaccinated, the disease lit up anew, and with redoubled fury.

During the epidemic at Cologne, in 1870 and 1871, free vaccination was offered, and there were, consequently, 2,813 primary vaccinations, and 16,731 re-vaccinations. Of the 2,450 cases in the city, only 85 occurred among the 16,731 who had been re-vaccinated; and of the 85 cases only five died.

It is not improbable that some of the 85 had contracted the disease before they were re-vaccinated.

At what age should persons be *re-vaccinated?*

In 1823, Dr. Gregory, of the small-pox hospital in London, found that of 141 cases

7	were under	10	years..	4.9 per cent.
16	" "	15	"	...14.4 "
118	" over	15	"	....83.7 "

In Copenhagen, 1824 to 1825, there were 257 cases, of which

24 were under 7 years ..... 9.3 per cent.
42 " " 10 " ..... 16.3 "
191 were between 12 and 23 years..... 74.4 "

In the epidemic in Nürnberg, from 1858 to 1860, 570 vaccinated persons took the disease; of these there were

Under 10 years..... 1.07 per cent.
" 15 years..... 2.67 "
From 16 to 60 years..... 96.26 "

In Upper Bavaria, in 1864–65, there were 345 cases after the first vaccination, of which

7 were under 15 years..... 2 per cent.
338 " over 15 " ..... 98 "

From the official report of Dr. Frank, there were 711 cases during the epidemic of 1865 and 1866, in Munich, of which

19 were under 10 years..... 2.67 per cent.
692 " over 10 " ..... 97.33 "

An overwhelming proportion of the cases occurred in persons over 10 years of age; *so that from that period onward there is no safety except in re-vaccination.*

Every motive of humanity, then, should urge us to perform vaccination early and efficiently, and often enough to insure perfect immunity from the disease. When the epidemic breaks out and hundreds are dying, expense is not thought of, but, as soon as the epidemic has passed, a mistaken economy leads to the entire cessation of active measures to prevent the return of the scourge. But it is *always vastly more expensive* to vaccinate during the prevalence of an epidemic. There is always greater hurry and a disposition to use all the lymph on hand rather than wait for fresh. Vaccinators must be kept busy. When humanized virus is used they may be tempted to take lymph, or crusts, from the arms of children whose history is not fully inquired into. In the hurry to go through the district there is no time to return to cases vaccinated, to ascertain whether they were successful or not. No records can be kept of successful cases; and, in future re-vaccinations, the statements of parents or friends must be accepted in regard to the success or the failure of every preceding vaccination or re-vaccination. The vaccinator can never be sure that he is not vaccinating a person already sick with small-pox, in a stage of incubation more or less advanced. It is thought by many practitioners of great experience, that the vaccine virus does not take so well during the prevalence of an epidemic, and that there is greater danger from erysipelatous inflammation and other intercurrent affections. It should be remembered that this is not a filth disease in any sense of the term, and hygienic measures can do no more

than enable the attending physician to bring the patient more safely through the disease. It spares neither age, sex, nor social condition, and physicians do their patients great injustice if they do not vaccinate them before the enemy is at the door.

Proper isolation is the only means of protecting those who are not protected by vaccination. Yet Brooklyn, the third city in the Union, with a population of 550,000 persons, is one of the very few cities in the world *that has no place in which to take care of persons stricken down with contagious disease.* It is probable that about one-fifth of the people in Brooklyn, embracing persons in every social position, are living in *boarding-houses.* These, together with servants and others, are liable to be thrust into the street if they have no friends to receive them. Many may be able, and willing, to pay for the care they need, but where can they find it? The door of every institution in the city, public and private, is shut against them. There is a hospital at Flatbush, but it is entirely too far away, especially in winter or in stormy weather; besides, it belongs to the county, and is outside the jurisdiction and control of the city.

Ought we not, then, have a small-pox hospital, or hospital in which persons having contagious diseases may be cared for in this city?

No danger need be feared from the existence of a small-pox hospital within the limits of the city; almost every city has such an hospital; London has several of them. The Bicêtre, in which 8,000 cases of small-pox were treated during the siege of Paris, and often contained more than 1,200 patients, was situated within a few yards of the fort of the same name, and was surrounded by forts d'Ivry and Montrouge, all full of troops, and yet not a case was known to occur in them in consequence of this proximity, and during the fifteen months that the Bicêtre was used as a small-pox hospital, only one nurse died from the disease, contracted within the hospital.

The mortality is less, both in civil and in military hospitals, than in private practice, and patients, if the facts were known, would not object to be sent to the hospital. The mortality in the Bicêtre, above mentioned, was 14.6 per cent.; the mortality in the city, before the siege, was 19 per cent.; and during the siege as high as 35 per cent.; that is *one* in *seven* in the military hospital, and *one* in *three* in civil practice.

During the epidemic in Cologne, from 12th Sept., 1870, to 12th Dec., 1871, there were 2,450 cases. Of these 1,977 were in hospitals, and 473 were in private practice. There were 479 deaths, 19.5 per cent.; of which 379 deaths were in hospitals, 19.2 per cent.; and 100 deaths in private practice, 21.4 per cent.; so that the mortality in private practice was 10.3 per cent. greater than in the hospitals.

From Sept. 1st, 1870, to Sept. 12th, 1871, there were 271 cases in the

military hospitals in Cologne (including French prisoners of war), and 30 deaths, making 11 per cent., or 8.2 per cent. less than in the civil hospitals.

The Committee have aimed to present, without any argument whatever, a few of the most prominent facts from the mass of documentary evidence on the practical points relating to vaccination.

CONCLUSIONS.

1. Vaccination is the only means of preventing small-pox.

2. Vaccination ought, in ordinary cases, to be done not later than the third month.

3. Vaccination does not endanger the health of the child; the mortality is 35 times less during the three weeks which follow the vaccination.

4. There is no protection for adults without re-vaccination.

5 Re-vaccinations should be done about the *tenth* year, not later than the *fifteenth.**

6. Vaccinations and re-vaccinations should be made regularly, and recorded as regularly as *births;* with date, and date of inspection.

7. Brooklyn should have a small-pox hospital, centrally located, to avoid unnecessary exposure of patients.

8. An hospital, properly located, would be entirely safe for those living in the vicinity.

9. The number of patients does not increase the danger, and the mortality is less than in private practice.

10. Each patient should be brought separately to the hospital, and without delay.

In view of the above conclusions the committee recommend that—

Whereas, No city which has a large unvaccinated population is ever safe against the ravages of an epidemic of small-pox, and *whereas*, the medical profession are greatly interested in the prevention and final extinction of that disease, therefore be it

I. *Resolved*, That the Board of Health should be constant in reminding the authorities that motives of economy and of humanity render necessary a permanent vaccination fund, as well as an infectious disease hospital within the city limits.

II. *Resolved*, That this Society urge upon the Common Council that a constant vaccination service fund be maintained from year to year, in the belief that every appropriation made for this service will be returned ten-fold to the treasury, by preventing the enormous expenditures incident upon every small-pox epidemic.

III. *Resolved*, That the Board of Education be urged to consult with

* Dr. W. E. Griffiths recommends that it be done as soon after puberty as possible.

the Board of Health in regard to the admission of children to the public schools who are not able to show evidences of efficient protection by vaccination or by previous attack of small-pox.

(Signed) F. H. Stuart, M.D., *Chairman of Com.*
P. T. Corbally, M.D.
Jerome Walker, M.D.
J. H. Hunt, M.D.

BROOKLYN PATHOLOGICAL SOCIETY.

Regular Meeting, December 26th, 1878.

The President, Dr. F. W. Rockwell, in the chair.

TUMOR OF LOWER LIP.

Dr. Payne presented a tumor and portion of a lower lip, removed by Dr. J. C. Hutchison from an adult male, Nov. 16th, 1878.

History.—It first appeared in the summer of '77 as a scab on the outside of the lip, and was excised. A hard lump soon appeared on the inside, on the lip. This was removed about four months after the first operation, and the wound was cauterized. Another growth appeared in the same location, and was removed last July, in London. A V-shaped incision was made, and considerable of the lip removed. This was followed by much constitutional disturbance, accompanied by sloughing and blood-poisoning. Union by granulation took place, with considerable deformity. The cicatrix drew the lip downward, so that its natural line was destroyed. In the early autumn a tumor was again noticed, somewhat nearer the median line. A large V-shaped piece was now removed by Dr. Hutchison, the lip being transfixed so as to preserve the vermilion border, which seemed healthy. The old cicatrix was removed with the tumor. It was necessary to make an incision through the cheek, in order that the wound might be closed. Hair-lip pins and silver and horse-hair sutures were used. The wound healed by first intention, with little constitutional disturbance. The deformity is less than before the operation. The anæsthetic used was nitrous oxide. Family predisposition to phthisis; one uncle had cancer (variety and seat not stated). No pain in tumor. No cachexia. In reply to Dr. Mathewson, it was stated that a slight tumefaction of one of the cervical glands was noticed, but it was not thought necessary to remove it.

Regular Meeting, Jan. 9th, 1878.

The Vice-President, Dr. A. Mathewson, in the chair.

TYPHOID FEVER.

Dr. Wallace, of St. Peter's Hospital, presented a portion of the intestine from the following case.

History.—An Irish laborer, 45 years of age, admitted January 4th, service of Dr. B. A. Segur, sick since Christmas.

Symptoms.—Extremely weak; dull and stupid. Tongue dry and parched; sordes on the teeth. There were fifteen or twenty rose-colored spots on the abdomen. They disappeared on pressure, and returned slowly when the pressure was removed. Abdomen tympanitic; diarrhœa. Temperature, 103° F. Pulse, 120. He died on the following day.

Autopsy.—Peyer's patches swollen and ulcerated, mesenteric glands tumefied. Spleen weighed 14 oz.; the liver was also swollen. There was hypostatic congestion of the posterior portion of the left lung. Condition of other organs not noted.

Dr. Westbrook had made an autopsy recently at the Long Island College Hospital, on the body of a sailor who died half an hour after being admitted. He had come from the West Indies. The lungs were congested. The heart flabby, and its muscle had undergone granular degeneration, the striations being no longer visible, except in a small proportion of the fibres. The liver was large, slate-colored on the outside, dark red within, soft, and weighed over 60 oz. The spleen was large and soft, weighing 20 oz. The kidneys were somewhat congested. Along the entire length of the jejunum and ileum were superficial ulcerations of the glands of Peyer. The mucous membrane was *not* swollen. The mesenteric glands were tumefied. He regarded it, judging from the post-mortem appearances, as a case of typho-malarial fever. Thought the cardiac degeneration a strong point in the pathological diagnosis.

Dr. West: It is the opinion of Loomis that the degeneration of the heart seen in typhoid fever is not due to the high temperature, but to the blood-poisoning.

Dr. Westbrook, in reply to Dr. Stuart: There are cases of long-continued elevation of temperature, as in phthisis, when the heart does not undergo degeneration.

Dr. Mathewson stated, in reply to Dr. Sherwell, that while on the gunboats of the U. S. Navy, he had not noticed that the engineers and firemen suffered from their work in the hot regions below the deck. They often came up and got cool. They perspired profusely, and their bodily temperature was probably not elevated.

Dr. Gray stated that in insolation the heart was always found strongly

contracted *immediately after death.* It had been established by the researches of Kühne and Harless that this contraction was due to the coagulation of the myosin by the high temperature. It is probable that there are two coagulable substances in human muscle—one coagulable at 104° F., and apparently identical with that causing post-mortem rigidity, and the other coagulable at 113° F., and producing the rigidity of insolation. The writers on insolation among the military in India note the fact that extremely sudden deaths are common among troops marching under a torrid sun, and post-mortems have shown that in all these cases there is tetanic contraction of the heart. Experiments on animals coincide, in these cases, exactly with pathological facts.

Dr. Jerome Walker: The experiments on rabbits are deceptive. These animals are very easily affected by unfavorable influences.

Dr. Gray: When physiological experiments are contrary to pathological facts, they should be rejected. When, however, they are in consonance with those facts, they are worthy of acceptance. The rabbits were under similar conditions to those affecting persons who die of sunstroke, and post-mortem examination of their bodies showed the same lesions.

CONTRACTED KIDNEYS.

Dr. Wallace, of St. Peter's Hospital, also presented the kidneys from a case in the service of Dr. Segur. An American woman, 22 years of age, admitted Jan. 3d, said she had been sick one week. She complained of sore throat and chilly sensations; intellect dull; temp., evening, 97° F. She was delirious all night. Respiration hissing in character. Would not lie down, but sat or knelt in the bed. Temp. next morning, 96° F.; pulse, 80. The bowels were moved by a turpentine enema; skin dry and cool; temp. in evening (in vagina), 95½° F.; pulse, 90. About three ounces of urine were withdrawn with a catheter, and found to be slightly acid, to contain a large quantity of albumen, and to have a sp. gr. of 1012. No casts were found by Dr. Segur upon microscopical examination. She was delirious all that night, refusing to lie down or to swallow anything. Next morning the pulse was 90; temp., 96°. One-sixth of a grain of muriate of pilocarpine given hypodermically and repeated in 15 minutes. No effects being observed, in half an hour another dose was given. It was followed by slight perspiration and salivation. The depression and coolness of the surface were increased. Death took place on the 6th of January. At the autopsy, the right kidney weighed 2½ oz., the left 3½ oz. The heart weighed 17½ oz. The pericardial cavity contained 4 oz. of clear fluid. (No note of condition of larynx, lungs, pleura or peritoneal cavity.)

Dr. Westbrook inquired if the vascular system had been particularly examined. Dr. Wallace replied that it had not.

DEGENERATION OF PLACENTA.

Dr. Otterson presented a placenta with the following history:

He was called, on Thanksgiving day, to see a woman who was supposed to be four or five months advanced in her fifth pregnancy. She had never borne a living child. She had some symptoms which led her to think the child was dead. The breasts became flaccid, areolæ faded. The health deteriorated. The size continued to increase till it became enormous. The feet swelled. The urine was not albuminous. Dr. Skene, in consultation, thought there was undoubtedly a fœtus in the womb, and ventured the opinion that there was a hydatidiform mole. Labor was induced. The placenta was of immense size. It had undergone some form of degeneration. (Referred to the Microscopical Committee.)

FIBROUS MOLLUSCUM.

Dr. Sherwell exhibited a specimen which had been sent him by a friend. Portions of the interior of the tumor presented the microscopical appearance of spindle-celled sarcoma, as had been pointed out by Rindfleisch.

NÆVUS PIGMENTOSUS.

Dr. Sherwell exhibited a specimen of this description which he had removed on account of the tendency of these growths to sarcomatous degeneration.

The following officers were elected for the year 1879:

President ..... F. W. Rockwell.
Vice-Pres ..... Arthur Mathewson.
Secretary ..... Benj. F. Westbrook.
Treasurer ..... Thos. R. French.
Curator ..... E. S. Bunker.
Editor ..... L. C. Gray.
Microscop. Comm. ..... Mathewson.
..... Bunker.
..... Westbrook.
Publication Comm. ..... F. E. West.
..... Jno. Merritt.

☞The Secretary requests members who present specimens to present therewith a *written* account of the case and of the pathological appearances.

The Curator would be pleased to receive correspondence with reference to exchanges of microscopical slides.

Address Dr. E. S. Bunker, No. 280 Henry St., Brooklyn.

Benj. F. Westbrook, *Secretary.*

BROOKLYN ANATOMICAL AND SURGICAL CLUB.

Stated Meeting, December 16th, 1878.

The President, Dr. L. S. Pilcher, in the chair.

CASE OF LONGITUDINAL VAGINAL SEPTUM. DOUBLE VAGINA?

Dr. J. N. Freeman reported a case of vaginal malformation as follows:

In May, 1878, Miss H. W., aged 26, native of Vermont, came to me for relief from chronic uterine troubles of four or five years' standing.

On making a vaginal examination, I found a constricted passage to the cervix uteri. The os lay to the left and behind what seemed to be a stricture or frenum, making a deep pocket on the left side of the vagina. The os and cervix could be hooked out of this pocket with some difficulty, when I found the uterus in a state of chronic congestion, with a constricted and tortuous canal.

In the course of treatment, while using vaginal injections, she made the discovery that she had another passage that had escaped my observation.

Examination now revealed a passage from the vulva to the left of the one already explored and leading directly to the os. What had appeared to be a frenum was the upper free edge of the septum, extending from the vulva two and three-fourths inches, and dividing the vagina into two nearly equal lateral divisions.

This septum was firm, fibrous and quite vascular.

June 26th.—With the assistance of Drs. E. S. Bunker, F. W. Rockwell and F. H. Colton, having placed her under ether, I passed a platinum wire up one passage, and over the free edge of the septum, and back the other side, and then attached to the battery and carefully burned away the superfluous membrane. No hemorrhage accompanied or followed the operation.

About the middle of July I commenced to treat her again for the uterine congestion.

She was in my office to-day, Dec. 16th, 1878, and has a vagina of normal form and dimensions, and a normal uterus in a reasonably healthy condition.

CASES OF CARCINOMA OF THE BREAST—ABLATION DURING PREGNANCY—REMARKS ON TREATMENT.

Dr. L. S. Pilcher presented two specimens of carcinoma of the breast, recently removed by him.

Case First.—A large tumor, involving the whole of the right breast, and presenting the gross appearances of scirrhus.

History.—Mary A. McP——, aged 38 years, of good general health, married sixteen years, mother of three children, *now eight months advanced in a fourth pregnancy.* Before the beginning of her third pregnancy she noticed a small hard lump in her right breast; no appreciable increase in its size took place during that pregnancy; after the birth of the child she began to nurse it from both breasts. At end of second week was forced to desist from the use of the right breast on account of pain which the act of suckling occasioned in it; from this time a rapid increase in the growth of the tumor took place, continuing during the thirteen months which intervened between that time and the date of its removal, when it formed a prominent tumor, involving the whole of the gland and the skin over it, which had begun to ulcerate at one point. The axillary glands were enlarged. Notwithstanding the fact of her pregnancy, immediate removal was recommended and accepted. Operation, June 19th, 1878. All the diseased tissue, including the axillary glands, was removed; to supply the place of the skin removed, flaps were brought around from the axilla; three ligatures applied; no drainage tube inserted; special care to secure coaptation; compression and support of the flaps exercised; union by first intention was secured throughout the whole extent of the wound except at the points where the ligatures were brought out. *No interference with the course of the pregnancy resulted from the operation.* Two months later she was delivered of a well-developed and healthy child. Dec. 16th, 1878, six months after the operation, the general health of this woman is excellent. At the upper angle of cicatrix there is a suspicious hardness, as of re-developing disease.

Case Second.—A small hard tumor involving the nipple of the right breast and the parts immediatelly contiguous; edges not defined, but merging into the substance of the breast proper; gross appearances those of scirrhus.

History.—Mary G——, aged 64 years; of good general health; mother of six children, all of whom she nursed; never any trouble during lactation; no known injury to breast; first noticed presence of tumor nine months previous to its removal; entire breast was excised October 26th, 1878; three enlarged glands were removed from the axilla at the same time; no vessels demanded ligature; no drainage tube inserted; same care to secure coaptation; compression and support of the flaps exercised, as in case first. Result: union by first intention throughout nearly the whole extent of the wound.

Remarks.—Dr. Pilcher, presenting these two cases, and recalling the one presented at the June meeting, called attention to three points connected with them. First, the effect of such an operation upon utero-gestation. He believed that the increased activity of the nutritive changes in the breasts

incident to pregnancy tended to promote the rapid increase of the growth in the case of Mrs. McP.; had delay been made until after the birth of the child, lactation would have prolonged this tendency; he had thought the indications for immediate interference were more pressing than were the contraindications arising from possible damage to the course of the pregnancy; he had believed the danger of the latter to be very slight, in which belief he had been justified by the result.

Second, as to methods of dressing the wound. The principles which govern the most successful treatment of such operative wounds were included in the words *coaptation*, *compression* and *support*. Coaptation places the raw surfaces in the position for immediate union; compression diminishes the amount of serous flux and promotes the rapid absorption of whatever may take place; support insures the undisturbed action of the reparative forces. Where these principles can be fully carried out there is no demand for antiseptic paraphernalia, and drainage tubes are a superfluity.

Third, the results to be expected from extirpations of the mammæ for carcinoma. Of great importance and interest are the results of the cases observed at the clinic of Prof. Billroth in Vienna. These are recorded in the report recently published by Dr. Alex. von Winiwarter.* The chapters on Carcinoma Mammæ had been translated by Dr. Geo. Wieber, who would present them.

SYNOPSIS OF THE STATISTICS OF CARCINOMA MAMMÆ, FROM THE CLINIC OF PROF. BILLROTH, AT VIENNA.

REPORTED BY DR. ALEX. VON WINIWARTER: TRANSLATED BY DR. GEO. WIEBER.

Dr. von Winiwarter, a former assistant of Prof. Billroth, gives, in his work, the history and treatment of 173 cases of carcinoma of the breast —170 of women and 3 of men. With some exceptions, those cases were treated by Prof. Billroth from 1868 to 1875.

Of those 170 cases of women there were not operated on, as hopeless cases, 27, and of those cases 18 died, 2 are living with carcinoma, and of 7 nothing further was known. There were 143 cases operated on, and of those cases

34 died in consequence of the operation;

55 died with recurrence;

35 are living with recurrence;

19 got well of carcinoma or died with other diseases.

Age.—The patients with carcinoma mammæ were of the age as the following table shows:

* Beiträge zur Statistik der Carcinome, &c. Dr. Alexander von Winiwarter. 1878.

Between 20 and 25 years	1 patient
" 26 " 30 "	7 patients
" 31 " 35 "	10 "
" 36 " 40 "	20 "
" 41 " 45 "	34 "
" 46 " 50 "	29 "
" 51 " 55 "	24 "
" 56 " 60 "	15 "
" 61 " 65 "	15 "
" 66 " 70 "	3 "
" 71 " 75 "	0 "
" 76 " 80 "	2 "
Age not known	10 "
	170 patients

It shows that the highest number of cases were between 41 and 45 years.

Divided in three periods, we have—

First period (age of conception), 25-45	72 cases
Second period (climacteric age), 46-55	53 "
Third period (generatio extinct), 56	35 "
	160 cases

153 patients were married or widows, 16 were not married, and of one it was unknown.

Of those 16 not married five had not given birth, and of four there are no reports given.

Of 34 patients it was not known that they had children.

Of 136 patients 114 had children.

Of 102 patients 37 never nursed their children.

Mastitis.—Of 170 women with carcinoma mammæ there were 24 who had suffered with mastitis; one woman had an induration from mastitis, which, after 25 years' standing, developed into carcinoma. In nine cases there was carcinoma in both breasts. Of all cases there were seven more carcinoma affecting the right than the left breast.

Hereditability.—Among 170 patients, of six it was positively known that the mothers had died of carcinoma, and of five it was suspected that the parents died of carcinoma. There were four cases where brothers and sisters suffered from carcinoma.

Infiltration of the Glands.—Among 170 cases there were 60 free from infiltration of the lymph glands. There was one case of recurrence of carcinoma after operation, with a spreading infiltration of the surrounding parts, but without a swelling of lymph glands. One case of carcinoma of ten years' standing was observed where no swelling of the glands could be detected. One patient had a recurrence of carcinoma in the

other mamma, but had no swelling of lymph glands. In one case a swollen gland in the axilla was not removed, and disappeared some time after operation of the carcinoma. This swelling must have been of a sympathetic character.

Character of Carcinoma.—Among 170 cases of carcinoma mammæ, there were only ten cases of characteristic fibrous carcinoma or scirrhus; the majority belonged to the medullary form.

In respect to the development of carcinoma mammæ, there are two types; one remains local to its neighborhood, the other type is spreading to distant organs through infection. Both types are in many cases combined or mixed.

Metastasis.—There were in twenty-six cases post-mortem metastasis of carcinoma observed in internal organs; according to frequency, as follows: Liver, lungs with pleura, vertebræ, dura mater and brain.

An average of twenty-three months intervened between the development of metastasis and the first appearance of carcinoma in the mamma.

Duration. —The average duration of carcinoma not operated on is:

From 25 cases	32.9 months.
From 91 cases operated on	39.3 "
The average duration of those cases where there was no swelling of the glands is	50. "
And of those with swelling of glands	29. "

Mortality.—Of 192 operations performed, some patients were several times operated upon. There resulted thirty-four deaths directly or indirectly connected with the operation. The operations were complicated four times with ligature of the vena axillaris, once with dissection of the subclavian vein, twice with partial extirpation of the pectoralis major, twice with dissection of the ribs, once with extirpation of the subclavian glands. Most all infiltrated glands in the axilla were removed.

Among those thirty-four fatal cases the following operations were performed:

Partial amputation of the mammæ, without extirpation of the glands	5 cases.
Partial amputation, with extirpation of the glands	1 case.
Total amputation, with extirpation of glands	27 cases.
Cauterization	1 case.
	34 cases.

CAUSE OF DEATH.

Pure sepsis	5 cases.
Sepsis, with carbolic acid intoxication	1 case.
Pyæmia	8 cases.
Erysipelas, with pyæmia	13 "
Erysipelas alone	2 "

Hemorrhage	2 cases.
Pleuritis	1 case.
Peritonitis, not connected with operation	1 "
	34 cases.

RECOVERY.—It is admitted that in all cases of carcinoma mammæ where there appeared no recurrence of carcinoma after three or more years after operation, a perfect cure has taken place. There are eight cases among those operated—143—where from three to six years after operation no symptoms of carcinoma appeared. Billroth reports a case operated on in Zurich, where twelve years after operation no recurrence appeared.

RETROSPECT.—The large percentage of mortality may be attributed to the fact that many cases came to the clinic in a far-advanced state.

The frequency of erysipelas may in some cases have depended on contagion, because the rooms of the patients were in the neighborhood of the patients with erysipelas, and nurses had admittance to both rooms.

It is important to know that the patients who were in 1875 dressed according to Lister did far better than those before treated without Lister's dressings.

As the best method of operation, it is recommended the amputation of the mammæ and the removal of the fascia covering the pectoralis major. Besides this, the glands in the axilla should be removed in all cases where there is the least suspicion of infiltration.

CARCINOMA OF THE BREAST OF MEN.

There were three cases observed which were similar to those of the women, but had a more malignant character.

One man 71 years old had for two years an induration near the left nipple, which ulcerated. Glands in axilla infiltrated. Operation, with extirpation of part of pectoralis major. Patient died of erysipelas. The second patient had for two years an induration around the nipple, which ulcerated. Glands infiltrated. Operation rejected by patient.

The third case is of traumatic origin. A man received, 1867, near the left nipple, a pistol ball, which after some months was extracted. Induration, with violent pain, developed in the cicatrix, and six months after extirpation was performed. December, 1870, extirpation of a recurrent induration of the size of an apple was performed, and also the swollen glands were removed. About nine months after this operation, large infiltration of the glands in the left axilla took place, but no local recurrence. 1873, extirpation of the glands in the axilla under difficult circumstances with the ligature of the vena axillaris. Recovery perfect as far as farther reports go.

VITAL STATISTICS OF BROOKLYN IN 1878.

BY R. M. WYCKOFF, M.D.

The total deaths in 1878 were 11,075, a decrease of 287 as compared with 1877. The births were reported to the number of 10,656, against 10,597 in 1877; the still-births were 819, against 813 in 1877; the marriages were 3,091, against 3,047 in the previous year. The last three items are incomplete, but the deaths are believed to be fully registered. Every death is certified to by a "physician," in the meaning of the law, or by the two Coroners of the county, one of whom is a medical man. In 1878 every death in the city was returned with a certificate showing the *causa mortis;* in 1877 one death was returned with the cause unascertained.

The rate of mortality for 1878 was 20.15 per 1,000 inhabitants, in an estimated population of 549,438 souls, or about one death in every 49. In the previous year the ratio was 21.52 per 1,000, or one in 46. During no previous year, since the bills of mortality have been accurately drafted, has the death ratio fallen below 24 per 1,000, unless we except the year 1874, when the actual population was considerably greater than the registration estimate—as shown by the census of 1875—and then a corrected population affords a ratio of 23.7 per 1,000. But the mortality rate of 1878 is beyond doubt the lowest that has yet been reached.

Of the total deaths in 1878, there were, as usual, more males than females—5,566 of the former, 5,509 of the latter—the difference being less marked than usual. The native-born were 8,094; the foreign-born were 2,981; the colored were 242. The married persons who died numbered 2,694; infants and unmarried were 7,087; widows, 860; widowers, 302; unknown, 132; of the latter many were among the Coroners' cases and hospital deaths. Of the nativity of parents we may briefly say, 3,344 were born in the United States, 3,626 in Ireland, and 2,525 in Germany.

Of the ages of decedents, 2,943 had not reached the first birthday, and the inordinate total of 5,294 died less than five years old—somewhat less than fifty per centum. In 1877, 5,560 deaths took place among children under five years, or over 10,000 children lost in two years. Thus we see repeated, year after year, the dread record of an excessive, and apparently irremediable, infant mortality.

I have prepared a comparative showing of certain foreign countries whose annual death-rates under one year are known, and have set Brooklyn down in the list, after having estimated the city's population at that age in 1878:

Sweden, 153;	Brooklyn, 203;	Switzerland, 252;
Denmark, 156;	Holland, 211;	Italy, 254;
Scotland, 156;	France, 216;	Austria, 303;
England, 170;	Prussia, 220;	Russia, 314;
Belgium, 186;	Spain, 226;	Bavaria, 372.

Between 5 and 20 years 968 died; from 20 to 60, 3,258; from 60 and over, 1,555.

By the five classes of disease, the record of 1878 is—Zymotics, 3,192 deaths; Constitutional, 2,496; Local, 4,061; Developmental, 1,032, and Violence, 294. As a general rule the zymotics lead the list, or fall but slightly below the local affections; this year the difference is more decided, and is one of the evidences of an improved sanitary condition.

Of the principal causes of death, the following are selected and arranged for the purpose of a comparison of the years 1878 and 1877:

	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough	Croup.	Diarrhœal Diseases, all ages.	Diarrhœal under 5 years.	Cholera Infantum.	Consumption.	Marasmus.	Pneumonia.	Bronchitis.	Bright's Disease.	Typhoid Fever.
Deaths in 1878.....	..	67	363	544	195	317	1,165	1,011	666	1,509	387	829	65	279	59
" " 1877.....	5	10	730	778	118	325	1.461	1,300	963	1,587	360	724	14	257	82

The past year is worthy to be marked with a white stone, as having been exempt from a death by small-pox—the last that occurred was on May 30th, 1877. In looking back through the annual mortality reports of previous years, at no point do I find a similar exemption, although there was a marked lull in variola in and before 1868. Beginning with the year 1876 and running backwards eleven years, we have the following as the total mortality by that disease (and varioloid) for the respective years: 309, 619, 53, 118, 737, 363, 146, 21, 2, 2, 1. During the years 1859 to 1866 (the metropolitan system being in vogue most of the time) it is not positive but that some of the deaths were registered from outside the city limits. From 1848 to 1860 there was no year free from deaths by small-pox, and the average annual number during that period was 59 deaths by that affection. From 1860 to 1866 there is a gap in the data at my command. Measles and whooping-cough alone, of the zymotic diseases, have shown an upward tendency; while a very decided decline has taken place in respect of scarlet fever, diphtheria and typhoid fever. The same is true of the diarrhœal diseases, although the summer of 1878 was marked by excessively high temperatures and other meteorological influences conducive to a high diarrhœal mortality. A moderate fall will also be noted in reference to pulmonary consumption; but acute

pulmonary affections appear to have increased somewhat. This latter increase is chargeable, in my opinion, to the very extreme and sudden alternations of the thermometer in the earlier part of the current winter season; which also caused that which is not shown in the above statistics—namely, a large proportion of sudden deaths, particularly by apoplexy and cardiac syncope.

Χαρμα μέγ' ανθρωποισι, κακων θελκτῆρ' οδυναων.

Hymns of Homer, No. XVI.

PROLIFERATIONS.

——Volume III of The Proceedings is completed with the present number. Its record is an excellent showing of industry and intelligence in the work of the County Society, not rivaled, certainly not surpassed, by any similar organization throughout the country. The Proceedings has steadily maintained its original intent of spreading broadcast the scientific work of the members of the County Society. Allegiance to the County Society has been the password to its pages. And in return for this fealty The Proceedings has secured for the hard work of the members of the Society a wide distribution, and given to the members themselves an individual prominence which no other medium could possibly have done so promptly and so well. The fruits of this single purpose of The Proceedings are ripening. The Society, at its Annual Meeting, gave free expression to the sentiment that The Proceedings is henceforth under the patronage of the Society itself, confident in its ability, at no distant day, to make the publication thereof one of its ordinary fiscal arrangements.

——The Annual Meeting, held January 21st, 1879, was characterized by an attendance which, in point of numbers, in the large proportion of the fathers and elders of the Society, in the brightness of the discussions, in the manifest individual interest in the active issues pending, crowned

with enthusiasm and loyalty the long list of its predecessors. It has never been an empty honor to occupy the official posts in the Society's gift. In these years of grace and the Society's prosperity and ardor, and in the choice surroundings of kindly feeling and good-fellowship that belong to the spirit of its members, the places of trust in the Society are likewise places worthy of the most laudable ambition, and an anxiety to occupy them may well justify an honorable rivalry. The retiring officers properly feel a pride in passing over to their successors the loyalty and good faith the Society is markedly courteous in evincing to the officers of its choice; and the new officers themselves may feel assured that their wisdom and assiduity, applied to the common interest, will be recognized and appreciated.

——Be it known, that it is desired to hold another meeting of the kind held here last March—by some called a *conversazione*—when Dr. Sayre honored us, and many makers of instruments, microscopes, batteries, books, drugs, etc., etc., pleasantly and brilliantly commanded our attention. To bring this about, not a little preliminary agitation is necessary. Therefore, let any one to whom this proposition seems interesting or profitable send to us suggestions, both as to any particular exhibit that should be made (or should not be made), and as to the proper conduct of the affair. Any happy thought will be welcomed.

Those who shall see this announcement and may desire to take part in the exhibit, will please address us, stating the character of their products, and the amount of space desired.

——Wm. H. Gardiner, M.D., died January 7th, 1879, at his long-time residence, corner of Clinton and Livingston Streets. He was born in New York City in 1822, and had lived thirty years in Brooklyn, having taken up his residence here very soon after his graduation in medicine from the University of the City of New York in 1847. In 1859 he joined the Medical Society. For several years Dr. G. had been in infirm health, and finally succumbed to a complication of valvular disease with pulmonary phthisis.

——Hance Bros. and White, of Philadelphia, send us a neat and tasteful New Year's card, omitting all reference to "the shop." Everything they do is marked by good taste, except, perhaps, their bitter drugs.

——Contagious Disease Reports made by physicians to the Board of Health are so frequently inexact as to the location and house number, that the Sanitary Superintendent has handed us a request to notify the profession that it is important to have these reports full and correct; particularly for the reason that they are at once made the basis of a warning to all the schools, that children shall not be allowed to attend from the houses indicated in the reports.

——Recurrent Iliac Aneurism.—On the 24th Dec., 1878, Dr. J. C. Hutchison, of this city, successfully performed the "old operation" for recurrent iliac aneurism on a man 40 years old, whose external iliac artery he had tied four years previously for aneurism in the same locality, all signs of the disease having in the mean time disappeared. The operation, which Holmes says "is usually difficult, always dangerous, and sometimes impossible," was undertaken as a *dernier resort*, after prolonged flexion of the thigh on the pelvis, repeated injections of the tumor with sol. sub. sulph. iron and compression had failed to cure the disease. The abdominal aorta was compressed by a tourniquet and the recurrent circulation controlled by Esmark's tube, applied below the tumor; the aneurism was then freely laid open, the clots turned out, and a ligature was applied to the profunda femoris where it entered the sac; this was the only vessel that supplied the sac. This operation has been done but two or three times abroad, and never before in this country.

——Belladonna in Intestinal Obstruction.—Dr. Norman Kerr read a paper at the Annual Meeting of the British Medical Association, in which reports were given of five severe cases of intestinal obstruction successfully treated by two-grain doses of belladonna, every one or two hours, until from twelve to sixteen grains had been taken.

——Early Vaccination.—Dr. Russell, of Glasgow, has recorded an instance of an infant born into a small-pox atmosphere being vaccinated within twenty-four hours after birth. The child was born the day after its father was removed to the hospital with small-pox. The vaccination did well; the child was not in the least disturbed in general health, and escaped a disease which would almost certainly have proved fatal. When small-pox is in the house or family, *no age must be considered too early* for vaccination, which appears to be quite as safe and quite as successful directly after birth as it is at a later period.—*Sanitary Record*, Nov. 15th

——Hamburg Tea.—What is it? The *New Remedies* says the common formula is: Senna leaves, eight parts; manna, four parts; coriander, one part. Mix.

——Foreign Body in the œsophagus expelled by the hypodermic use of apomorphia. A child swallowed a prune-pit, that stuck fast in the œsophagus. M. Veiger reports that ipecac had been used without producing emesis; and as no proper instruments for the removal of a foreign body were at command, two subcutaneous injections of a solution of apomorphia, amounting in all to $\frac{1}{27}$ grain of the drug, were given. Vomiting followed promptly, and the offending body was expelled.—*Lyon Medical.*

——Bedsore of Spinal Origin.—Charcot teaches that the acute bedsore may occur both in traumatic myelitis and in spontaneous acute myelitis. The length of time within which the eschar may begin varies from four to twelve days. Also, in some spinal diseases of slow development, we occasionally have the rapid mortification of the skin of the sacral region, when those diseases suddenly take on more active processes. In these cases pressure has only a secondary, if any, importance.

——New Publications.

Differential Diagnosis: A Manual of the Comparative Semeiology of the More Important Diseases. By F. De Haviland Hall, M.D. American edition, with extensive additions. Philadelphia: D. G. Britton, 115 South 7th Street. 1 vol., 8vo, cloth, pp. 205. Price, $2.00. An excellent work.

Organic Materia Medica and Pharmacal Botany. By L. E. Sayre, Ph.G. D. G. Britton, Philadelphia, 115 South 7th Street. Pp. 220. Price, $2.00. A vast amount of the latest information in a very moderate space.

By-Laws of the Medical Society of the County of New York, 1878. A faithful and discriminating and apparently successful effort on the part of the Metropolitan Society of this State to enact a series of By-Laws in conformity with the very mixed legislation of the State on medical matters.

On the Treatment of Strictures of the Fossa Navicularis. By H. G. Piffard, M.D. Reprint, pp. 8; 7 illustrations.

The Value of Absent "Tendon Reflex" as a Diagnostic Sign in Locomotor Ataxia, with an analysis of eight cases. By A. McLane Hamilton, M.D. N. Y.: Reprint, pp. 8.

A Contribution to the Pathological Anatomy of Disseminated Cerebro-spinal Sclerosis. By Dr. E. C. Seguin, N. Y.; Dr. J. C. Shaw, Brooklyn, and Dr. A. Van Derveer, Albany. Reprint, pp. 13.

On Gastro-Elytrotomy. By H. J. Garrigues, Brooklyn. With three wood-cuts. Reprint, pp. 78.

Operation for Closure of Cleft of the Hard and Soft Palate. By A. Van Derveer, Albany. Amer. Clin. Lectures, Vol. III, No. IX.

Half-Yearly Compendium of Medical Science. Edited by D. G. Brinton, M.D. Part XXIII. Jan., 1879. This excellent semi-annual sustains itself fully. Dr. J. Walker's paper on Diarrhœas in Children, and Dr. T. M. Rochester on the Treatment of Ulcers, are quoted from The Proceedings.

——American Microscopes.—Dr. J. G. Hunt, of Philadelphia, one of the most experienced microscopists in the country, says that it is pure affectation or stupidity on the part of Americans to send to Europe for

microscopes when they can get better ones at home, and for less money. —*Med. and Surg. Reporter.*

——Inequality in the Lower Limbs.—In a paper in the January number *Amer. Jour. Med. Sciences*, Dr. William Hunt disputes Dr. Wight's claim, and claims for himself priority in the discovery and full surgical appreciation of the fact that asymmetry as to length of the lower limbs of the same person is the rule, and not the exception.

——Houses that have been empty may become fever-breeders when they come to be re-occupied. An English sanitary officer alleges that he has observed typhoid, diphtheria or other zymotic affections to arise under these circumstances. The cause is supposed to be in the disuse of cisterns, pipes and drains, the processes of putrefaction going on in the impure air in them, the unobstructed access of this air to the house, while the closure of windows and doors effectually shuts out fresh air. Beware of an unoccupied house.

——Deferred Section of the Cord.—A German observer, Dr. Zweifel, practices the late section of the cord—that is, only after the delivery of the placenta. He holds that 100 grams of blood is thus saved to the infant in many cases; and in some instances of asthenia or atrophy this quantity may be of vital consequence. He states that he has not seen any injurious effects from this practice.

——Pruritus Pudendi.—Dr. McCall Anderson has recently called attention to a combination that has served a good purpose in this distressing and often intractable symptom; *viz.*, thirty grains each of camphor and chloral hydrate in an ounce of simple cerate, or similar excipient.

——Nervous Headache is said to be cured by thirty grains of salicylic acid, taken at the outset of the paroxysm.—*Pacific M. and S. Jl.*, Dec.

——The Taste of Quinia.—Dr. Ashurst is quoted as saying that, if the alkaloid be mixed in the proportion of one grain to four grains of sugar of milk, and one-tenth grain of bicarbonate of soda, it will leave no bitter taste in the mouth. This compound may be taken dry or dissolved in water. . . . The tinnitus aurium produced by quinia is said to be relieved by hydrobromic acid. The acid should be administered, fifteen drops in water, as often as once every quarter of an hour.

——Tetanus may be produced by the hypodermic needle. The *Med. Record*, Dec. 14th, records a fatal case of tetanus following the hypodermic injection of quinia, administered by an Iowa physician for the relief of neuralgia.

——The Regular Monthly Meetings of the Medical Society of the County of Kings are held at 8 P. M., on the third Tuesday of each month, at Everett Hall, 398 Fulton Street.

The February meeting will be held on the 18th, at which there will be presented the following papers:

Mountain Air for Poor Sickly Children, by Dr. H. B. White.

The Iodide of Potassium in the Treatment of Asthma, by Dr. B. F. Westbrook.

——New Members.—At the January meeting Drs. Edward Malone, H. G. Small, G. R. Westbrook and Kate C. Woodhull were elected members. Drs. R. B. Welton, 519 Henry Street; J. J. Corcoran, 413 Kent Avenue; E. M. Mordough, 92 Sands Street; H. M. Nevins, 428 Vanderbilt Avenue; Louise Rice, 286 Ninth Street; E. F. Lindridge, 157 Cumberland Street, were proposed for membership.

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(1878 to 1882.)

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J. D. Rushmore,	G. G. Hopkins,	J. S. Prout,
R. M. Wyckoff,	A. Mathewson,	F. W. Rockwell.

Chap. XI, Art. 2, of By-laws: "Any Member elected as Delegate to the Medical Society of the State of New York, who shall be unable to act as Delegate during two successive years, shall be considered to have vacated his position as Delegate."

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Bookin,	Garrigues,	Schapps,
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PHYSICIANS' MUTUAL AID ASSOCIATION.

Drs. B. A. Segur, W. W. Reese, J. H. H. Burge, A. Hutchins, W. G. Russell.

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Clark, Chas. F.
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Clarke, Alex. S.
Cochran. Alex.
Colgan, J. P.
Colton, E. G.
Colton, F. H.
Conkling, J. T.
Cook, C. D.
Cooper. John.
Corbally, T. P.
Corbin, Job.
Corey, Chas.
Coverly J. H.
Crane, Jas.
Crutchly, W. F.
Curry, A. M.
Cushing, G. W.
Cutter, G. R.
Daly, Guy.
De Bowes, T. N.
De Long, W. A.
De Mund, F. C.
Dodge, D. A.

Drs. Dower, A. J.
Drake, N. S.
Dudley, W. H.
*Duryee, G. W.
Eddy, Chas.
Edson, Benj.
Elmendorf, J. L. H.
Emery, Z. T.
Ensell, J. E.
Eskens. F.
Evans, Geo. A.
Farrar, J. N.
Fearn, Herbert,
*Ferris, P. J.
Fessenden, B. F.
Figueira, M.
Fisk, S. N.
Fletcher, Geo.
Ford. A. W.
Ford, Nathaniel.
Fowler, G. R.
Freeman, J. N.
French, J. R.
Frickenstein, T.
Fuhs, J.
Fuller, S. E.
Furgang, Albert.
Garrigues, H. J.
Giberson. C. H.
Gilfillan, Geo.
Gilfillan, Wm.
Gilfillan, Wm. J.
Goodwin, Francis.
Gray, L. C.
Green, F. B.

Drs. Gregory, J. E.
Griffiths, W. E.
Griffin, J.
Griffing, G. P.
Griggs, S. C.
Hallam, A. C.
Halsey, J. C.
Hamilton, J. W.
Hardrich, H.
Harlin, W. H.
Harrigan, J.
Harvey, E. J.
Haslett, Audley.
Hawley, J. S.
Healy, Jos.
Hebersmith, E.
Henderson, A. C.
Henry, J. W.
Hesse, H. J.
Hesse, R. G.
Homiston, J. M.
Hopkins, G. G.
Howe, J. F.
Hoyt, F. M.
Hunt, J. H.
Hutchins, Alex.
Hutchison, J. C.
Hyde, Joel W.
Jenkins, J. A.
Jewett, Chas.
Jewett, C. C.
Johnson, J. G.
Joye, Thos.
Keller, Ferd.
Ketcham, G. F.
Krauter, J.
Kretzschmar, P. H.
Kuhn, George R.
Lamadrid, J. J.
Langdon, H. A.
Large, Alfred.
La Roe, J. G.
Leach, J. T. G.
Leary, J. B.
Leighton, N. W.
Lewis, E. A.
Little, Alex.
Loewenstein, H.
Lowell, A. L.
Maddren, Wm.
Mann, F. P.
Martin, W. H.
Mason, L. D.
Mason, T. L.
Matheson, A. R.
Mathewson, A.
Matson, N.
Matson, W. B.
Matthews, H. C.
Mattison, J B.
McClellan, Chris. R.
McCollom, Wm.

Drs. McCorkle, J. A.
McCosker, T.
McIlroy, S. P.
McLean, H. C.
Merritt, John.
Metcalfe, E. G.
Mitchell, C. L.
Moore, J. Fred.
Morse, V.
Mulligan, E. L.
Myers, S. O.
Newton, B.
Nichtern, Ponce M.
Olcott, Cornelius.
Olmstead, S. H.
Ormiston, Robert.
Ostrander, F. W.
Ostrander, G. A.
Ostrander, J. W.
Otterson, Andrew.
Otterson, W. C.
Paine, A. R.
Parsons, R. L.
Peck, E. F.
Pendleton, S.
Pilcher, L. S.
Pine, O. S.
Potter, C. H.
Pratt, W. H. B.
Prout, J. S.
Quinn, J. R.
Rand, W. H.
Randolph, W. H.
Rappold, J. C.
Ray, J. A.
Raymond, J. H.
Read, H. N.
Reese, W. W.
Reynolds, E.
Rhodes, R. R.
Richardson, J. E.
Riedel, Henry.
Robinson, S. C.
Rochester, T. M.
Rockwell, F. W.
Rogers, H. C.
Rooney, A. J.
Ross, Wm.
Rowland, C.
Rushmore, J. D.
Russell, W. G.
Santoire, S.
Schapps, C. H.
Schenck, P. L.
Schenck, Teunis.
Schlatter, C. B.
Schmetzer, G.
Schmidt, C. F.
Segur, B. A.
Shaw, J. C.
Shepard, A. W.
Sherman, W.

Drs. Sherwell, S.
Sizer, N. B.
Skene, A. J. C.
Small, H. G.
Smith, E. P.
Smith, G. K.
Snively, J. C.
Speir, S. F.
Squibb, E. R.
Sterling, J. H.
Stewart, James.
Stone, R. H.
Stuart, F. H.
Stub, Arnold.
Sullivan, J. D.
Swalm, W. F.
Sweeney, James.
Swift, William.
Szigethy, C. A. H.
Terhune, J. J.
Terry, C. H.
Thayer, W. H.
Thorne, J. S.
Tittemore, Noah.
Turner, Henry C.
Turner, J. M.
Tuthill, S. B.
Tuttle, T.
Van Brakle, James.
Vanderveer, J. R.
Van Harlingen, J.
Van Kleek, R. L.
Van Ness, John.
Van Wagner. A. B.
Von Weber, F.
*Vrooman, C. W.
Wackerhagen, G.
Wade, James D.
Walker, Jerome,
Wallace, William.
Watt, James.
Welty. G. W.
West, F. E.
Westbrook, B. F.
Whaley, E. A.
White, H. B.
White, J. A.
Whiting, H.
Wieber, Geo.
Wight, J. S.
Wilbur, J. G.
Wilde, Thomas.
Williams, H. F.
Williams, W. H.
Willis, L. A.
Willson, J.
Wonderlich, F. W.
Wyckoff, R. M.
Young, C. F.
Young, J. S.
Zabriskie, J. L.
Zellhoefer, C.

INDEX

VOLUME III.

MARCH, 1878, TO FEBRUARY, 1879.

Active List Kings County Medical Society....402
Albuminuria, Chronic, Fuchsine in....233
Amaurosis and Aphasia (Matheson)....214
Amnion, Dropsy of (Hopkins)....371
Amyl, Nitrite, in Ague....161
Anatomical and Surgical Club....280, 315, 350, 388
Aneurism of Aorta....279, 318
Aneurism, Recurrent Iliac....398
Apomorphia, Uses of....69
ARMOR, Dr. S. G., Precursory Stage of Phthisis....335
Army Medical Museum....232
Arrest of Development in Sternum (Jewett)....350
Arsenical Treatment of Chorea (Gray)....293
Aural Diseases, Absorbent Cotton in....124
BAKER, G. W., The Profession of Pharmacy....25
Baths, Hot and Cold....291
BEARD, Dr. G. M., Hygiene of Chronic Nervous Diseases....50
Bony Anchylosis of Hip-joint (Hutchison)....259
Butter, Analysis of Adulterated....253
Cancer and Tomatoes....233
Carcinoma Mammae....388
" " Statistics of....390
Cardiac Depressants....287
Caries of Tarsus....315, 365

Capillary Bronchitis....322
Cervix Uteri, Lacerations of (Skene)....150
Chorea, Arsenical Treatment of (Gray)....293
Cold Baths in Hyperpyrexia (Green)....205
Compound Rhubarb Mixture....200
Contagious Diseases and the Schools....284
Cornaro Again....330
Corpus Luteum of Pregnancy....245
Diarrhœas of Children (Walker)....310
Drinking Water, Fouling of....70
Dropsy of Amnion (Hopkins)....371
Dropsy, New Remedy for....128
Drysdale's Corpuscle....323
EDSON, Dr. B., Importance of Good Nursing....191
Elephantiasis....122, 285
Electrolysis in Uterine Fibroid (Freeman)....165
Epilepsy, Chloral and Potass. Bromid. in....233
Epithelioma of Lip....316
Ergot in Enlarged Prostate....332
Expert, A Good....254
Extra-uterine Pregnancy (Giberson)....129
" " " (McCollom)....178
Eye, Influence of Gaslight on....257
FARRAR, Dr. J. N., D.D.S., Regulation of Teeth....373
Feeding vs. Fasting....68
Forcipressure (Pilcher)....344
Fracture Dressing, New (Wackerhagen)....201
FREEMAN, Dr. J. N., Electrolysis in Uterine Fibroid....165
GARLAND, Dr. G. M., Pneumono-Dynamics....170
Gangrene of Lung....281
GIBERSON, Dr. C. H., Extra-uterine Pregnancy....129
Good Nursing, Importance of (Edson)....191
Gout Concretions, Phosphorus in....287
Gravid Uterus, Extirpation of....34
GRAY, Dr. L. C., Arsenical Treatment of Chorea....293
" " Spasmodic Spinal Paralysis....167
GREEN, Dr. F. B., Hyperpyrexia Treated by Cold Baths....205
Groux, Dr. E. A., Case of (Jewett)....350
HART, Dr. S.'s Library....257
HAWLEY, Dr. J. S., Action and Uses of Pancreatine....185
Heat Stroke....235
Hepatic Abscesses....319
Hernia Diaphragmatica Vera....358
Hip-joint, Bony Anchylosis of (Hutchison)....259
" " Repair After Excision of....280
HOPKINS, Dr. G. G., Dropsy of Amnion....371
HUTCHISON, Dr. J. C., Bony Anchylosis of Hip-joint....259
Hydrophobia....123
Hygiene of Chronic Nervous Diseases (Beard)....50
Hyperpyrexia Treated by Cold Baths (Green)....205

Hysteria.....233
Infant Deformities, Causes of 247
Infant Insurance.....280
Infectious Disease Hospitals.....378
Inflammable Volatile Liquids, Dangers of.....33
Intestinal Hemorrhage.....328
" Obstruction, Belladonna in.....398
Jaborandi in Puerperal Convulsions (White).....112
JEWETT, Dr. C., Case of Dr. E. A. Groux.....350
Knee-joint, Resection of.....246
KRETZSCHMAR, Dr. P. K., Three Forms of Phthisis.....299
Larynx, Excision of.....33
Locomotor Ataxia (Shaw).....264
London Practitioners and their Fashions.....252
Longevity.....244
Long Island and N. Y. Island in Ice Period.....282
Mammary Tumor.....245
MATHESON, Dr. G. R., Aphasia and Amaurosis.....214
MCCOLLOM, Dr. W. A., Extra-uterine Pregnancy.....178
Middle Ear Inflammations (Prout).....176
Microscopic Examination of Urine (Segur).....241
Milk as a Quinine Solvent.....289
Milk Test.....253
Milkweed, Healing Raw Surfaces by.....235
Mitral Stenosis and Pregnancy.....321
Morphia Mania.....233
Mortality and Meteorology in Brooklyn, 1878 (Wyckoff).....271
Necrosis of Os Calcis.....315
Nervous Diseases, Hygiene of (Beard).....50
Obituary Notes, Dr. J. M. Andrews.....35
" " " L. P. Ashmead.....123
" " " K. A. Boner.....289
" " " A. D. Creamer.....233
" " " W. H. Gardiner.....397
" " " E. A. Groux.....289
" " " S. Hart.....251
" " " J. Haslett.....289
" " " A. Orth.....162
" " " M. F. Regan.....234
" " " S. D. Scudder.....35
" " " P. A. Sheridan.....289
" " " J. A. Williams.....289
Obstetric Forceps, The (Stuart).....37
Oleo-margarine.....284
Opium Poisoning.....68
Pancreatine, Action and Uses of (Hawley).....185
Paracentesis of Drum Membrane (Prout).....176
Pathological Section.....19, 60, 114, 155, 180, 245, 276, 318, 347, 384
Pharmacy, The Profession of (Baker).....25
Pharmaceutical Society of Kings Co.....22, 65

Phthisis, Precursory Stage of (Armor).....335
" Three Forms of (Kretzschmar).....299
PILCHER, Dr. L. S., Forcipressure 344
" " Wrist-joint, Injuries to..... 1
Pilocarpine.....125
Plaster Jacket..... 34
Pneumono-Dynamics (Garland).....140
Pollen in Hay Fever.....327
Poroplastic Spinal Jacket.....250
Portal Phlebitis.....348
Post-partum Hemorrhage, Hot Water in..... 68
Progressive Muscular Atrophy (Shaw)..... 46
Proliferations.....30, 67, 120, 161, 183, 203, 232, 248, 283, 326, 362, 396
PROUT, Dr. J. S., Paracentesis of Drum Membrane.....176
Puerperal Convulsions.....365
" " Jaborandi in (White).....112
Puerperal Fever, Prevention of 232
Raw Surfaces, Healing of, by Milkweed.....235
RAYMOND, Dr. J. H., Care of Contagious Diseases..... 153
READ, Dr. H. N., Case of Tracheotomy 269
Re-vaccination.....257
" etc.....378
ROCHESTER, Dr. T. M., Ulcers Treated by Potass. Chlor.....237
Sanitary Work of Brooklyn Board of Health (Raymond).....153
Sarcoma of Face.....320
SCHENCK, Dr. P. L., Prognosis of Tumors of Testicle.....216
Sea-Air and Bathing in Diseases of Children (Walker).....105
SEGUR, Dr. B. A., Microscopic Examination of Urine.....241
Sewer Gas.....256
SHAW, Dr. J. C., Locomotor Ataxia.....264
" " Progressive Muscular Atrophy..... 46
SKENE, Dr. A. J. C., Lacerations of Cervix Uteri.....150
Spasmodic Spinal Paralysis (Gray).....167
STUB, Dr. A., Yellow Fever in Key West in 1862.....218
STUART, Dr. F. H., The Obstetric Forceps..... 37
Telephone, Novel Use of.....254
Temperature of Human Body.....254
Testis, Prognosis of Tumors of (Schenck)..... 216
Thymol..... 71
Tobacco Deafness.....285
Tracheotomy..... 32
" A Case of (Read).....269
" in Croup, Substitute for.....286
Tumors of Labia Majora.....246
Tympanitis, Postural Treatment of.....288
Teeth, Positive System for Regulating (Farrar).....373
Ulcers Treated by Potass. Chlorat. (Rochester).....237
Unequal Femora.....256
Unintentional Suicide.....255
Urine, Microscopic Examination of (Segur).....241

Uterine Fibroid....246
" " Treated by Electrolysis (Freeman)....165
Vaccination, Re-vaccination, etc....378
Vaccination and Arsenic....327
Vaccine, Transportability of....234
Vital Statistics, Brooklyn, 1878 (Wyckoff)....394
WACKERHAGEN, Dr. G., New Fracture Dressing....201
WALKER, Dr. J., Diarrhœas in Children....310
" " Sea-Air and Bathing for Children....105
WHITE, Dr. H. B., Jaborandi in Puerperal Convulsions....112
WIGHT, Dr. J. S., Some Measurements of Heads and Skulls....73
Wrist joint, Injuries to (Pilcher)....1
WYCKOFF, Dr. R. G., Mortality and Meteorology in Brooklyn, 1878....271
" Vital Statistics, Brooklyn, 1878....394
Yellow Fever at Key West, 1862 (Stub)....218
" " Sufferers, Fund for....248, 283, 326, 362
" " Quarantine for....291

41C
8